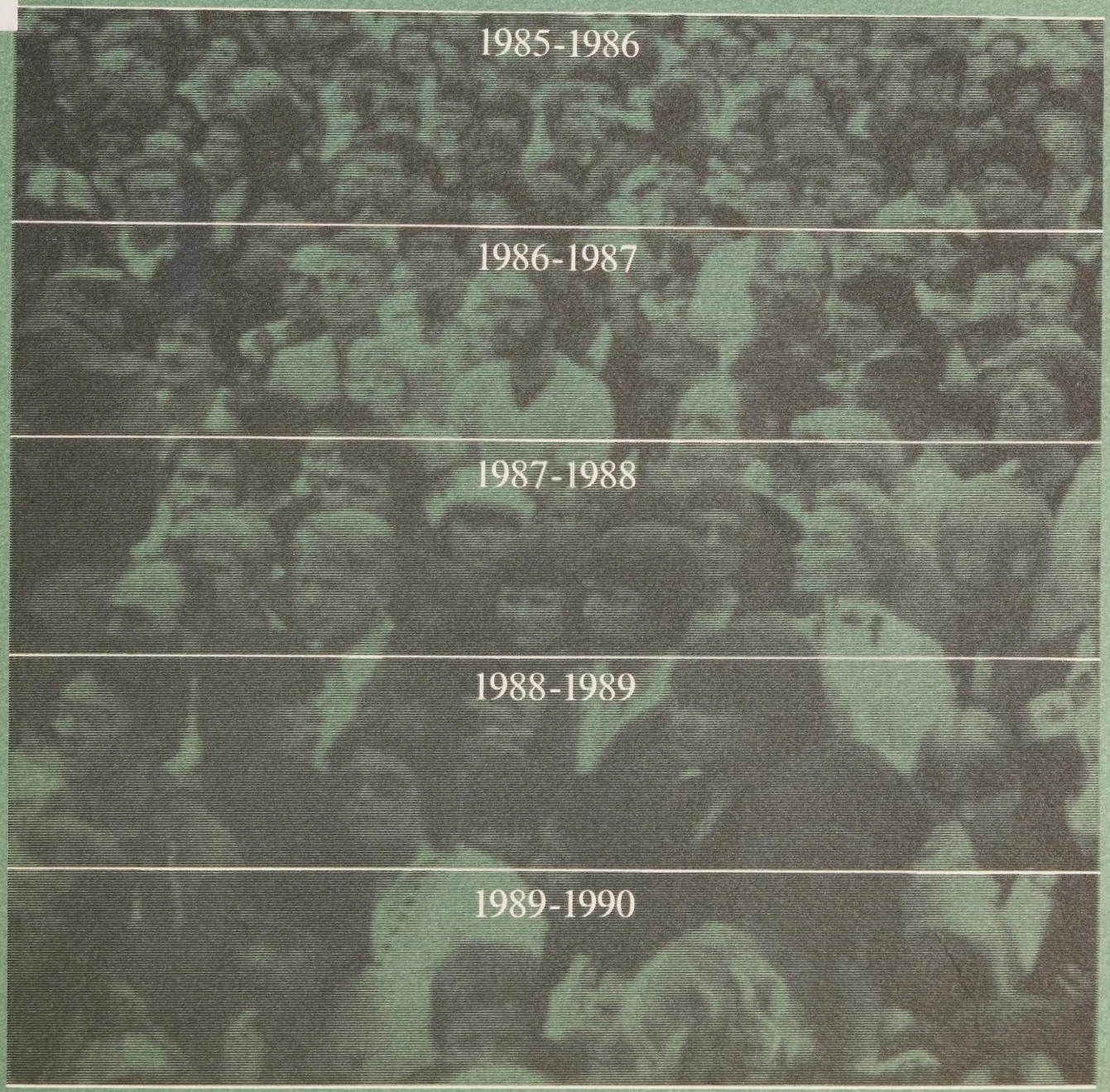
# Five-Year Plan

## for financing research in the Social Sciences and Humanities 1985-1990






Social Sciences and Humanities Research Council of Canada
Conseil de recherches en sciences humaines du Canada
Canada

# FIVE-YEAR PLAN FOR FINANCING RESEARCH IN THE SOCIAL SCIENCES AND HUMANITIES, 1985-1990

SOCIAL SCIENCES AND HUMANITIES RESEARCH COUNCIL

1985

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**FIVE-YEAR PLAN**
**SUMMARY**

## Introduction

The second Five-Year Plan of the Social Sciences and Humanities Research Council (1985-90) clearly recognizes the national need for discipline-based research in the social sciences and humanities to be strengthened, for new Canadian research talent to be trained, and for further initiatives in areas of national interest to be launched. The Plan, which reflects extensive national consultation, seeks a more effective place for the social sciences and humanities in the government's overall research policy.

A strong and dynamic social sciences and humanities research community is essential to an enlightened, democratic, progressive and equitable society. Canada needs to generate more of its own research: to contribute to the solution of economic problems; to compete internationally; and to have access to, and adapt, internationally produced knowledge. Only in this way can we move from a resource-based to a knowledge-based society, while avoiding the common assumption that information is knowledge and that technology alone provides solutions.

Graduates of the social sciences and humanities are a major resource when it comes to improving productivity and the quality of Canadian management, making the best use of our human and material capital, and overhauling the structure of Canadian society as a whole. Just as the natural sciences explain the natural world, so do the human sciences explain the social, economic, political, moral, emotional and intellectual world in which we exist. They provide the knowledge, data and understanding needed for wise policy decisions.

In 1984-85, the federal government spent $771 million on activities in the social sciences and humanities -- the equivalent, after inflation, of the amount spent in 1978-79, the first year of SSHRC operations. Direct federal payments to Canadian universities for activities in the social sciences and humanities in 1984-85 totalled $90 million, half of it through the SSHRC. The Council itself was created by the Government Organization (Scientific Activities) Act, 1976. This measure, while recognizing the traditional and vital roles of universities in research and the training of researchers, provided for a portion of federal support to be directed to specific national research areas.

SSHRC funds research and training in some 70 universities; its more than 50 disciplines include such areas as education, law, economics, management and business administration, industrial relations, women's studies, criminology, Third World studies, languages, Canadian studies, gerontology and demography -- vital to economic recovery, social justice and renewed international participation.

The Council's clientele includes 56 per cent of Canada's full-time university faculty and 65 per cent of full-time graduate students. The 1985-86 budget is $60.9 million, down from $62.8 million in 1984-85.

## The First Five-Year Plan, 1980-85

The Council's first Five-Year Plan, approved in principle but not funded beyond its first year, was designed to: foster basic research essential for the generation of new knowledge; identify and examine pressing issues of social policy and national concern; and, improve communication of knowledge. Programs were delivered under four broad categories: Discipline-based Research; Strategic Programs, Human Resources Development; and, Research Communication. Although Council funding remains at the same level, in real terms, as in 1978-79, much has been achieved. Fostering of discipline-based research accounted for 50 per cent of the budget over five years, a period in which applications doubled.

A significant accomplishment of the first Plan was the introduction of targeted research, in the areas of Population Aging, Women and Work, the Human Context of Science and Technology, the Family and the Socialization of Children, and Managing the Organization in Canada.

In human resources development, some 6,000 doctoral fellowships and MA scholarships were awarded over five years, but with success rates for these outstanding candidates dropping as low as 16 per cent.

## The Second Five-Year Plan, 1985-90

With the accomplishments of the first Plan as a base, the second Five-Year Plan is designed to help the country attain the economic renewal, innovation and improved productivity called for in the Throne Speech, in the framework of social development and justice. The Plan recognizes that the Council, as a federal agency, must strengthen those areas where research needs and aspirations coincide with Canada's national priorities.

The Plan seeks to provide the highly qualified personnel that the Canadian research enterprise, universities, government and the private sector will need in the next decade. It also proposes to increase the capacity for strategic work on persistent issues of national concern. The second major objective is a modest reinforcement of the core activities on which all else depends: discipline-based research, and the infrastructure such as communications networks, research tools and specialized library collections. It addresses the needs of more than 40,000 full-time faculty and graduate students in the universities alone.

The objectives are:

* to stimulate greater research output, especially in areas of national importance;

* to ensure a supply of researchers to meet Canada's defined needs;

* to provide research infrastructure support to universities;

* to provide rapid research communication in Canada and abroad.

Discipline-based research is the fulcrum of research activity. The goal is to increase by 30 per cent the number of researchers supported directly or indirectly. Under strategic programs, new targeted research themes identified include education for the post-industrial society, Native issues and law. Small universities would be helped to improve their faculty's contribution to the national research effort and the solution of regional problems. Specialized collections would be strengthened and further support accorded Canadian studies research tools and the Canadian Institute for Historical Microreproductions. Access to communications networks must be improved so that research results can be used by society and its leaders.

The Council proposes to expand its doctoral and postdoctoral fellowships programs and to introduce a new five-year Canada Research Fellowship, to stimulate research activity immediately and to provide a partial solution to the looming problem of staffing advanced education and research in the 1990s. The low replacement rate of faculty in the 1980s will restrict innovation in the system and drive well-qualified researchers and advanced students from the field. Women, who have just begun to establish themselves in significant numbers in the research community, will be especially frustrated; they now constitute 46 per cent of our doctoral and postdoctoral fellows.

The Plan calls for consultation with the community on the creation of research centres. These would: focus research on persisting national problems; promote interdisciplinary and multidisciplinary research; provide research training; provide facilities for visiting researchers and the proposed Canada research fellows; act as nodes in communication networks; and link researchers and research users in government and the private sector. The Council would ensure that research centres stress topics of long-term relevance to the country. Modest additional support is also proposed for Canadian research institutes abroad.

The recommended Plan calls for a phasing-in of the two major initiatives and allows for modest growth in existing programs. The Canada Research Fellowships would be introduced in 1986-87 and grow

by $5 million a year to 1989-90, with almost 600 fellows supported. The research centres on national interest would begin as a $1 million program in 1985-86, averaging growth of $2.8 million annually to 1989-90. Total Council budget would double to $120 million by 1989-90, in real terms.

By capitalizing on the work of the first five years, the SSHRC will help Canada's policy-makers in the transition to a post-industrial society. The recommended Plan would enable the research community to make an important contribution to Canadian society.

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## A. Introduction

### 1. Purpose

The Five-Year Plan of the Social Sciences and Humanities Research Council provides the community and policy-makers with a timely opportunity to reflect on the contribution of social sciences and humanities research in the development of a strong and united Canada.

This Five-Year Plan rests on the following premises:

(a) It is imperative that the achievements of the Council's first Five-Year Plan be further developed: Canada's basic research in the social sciences and humanities must be strengthened; training of new research talent must be vigorously pursued and new initiatives in areas of national priorities must be launched.

(b) Research in the social sciences and humanities must be given a more prominent place in the government's overall research policy in order to ensure a balance in the nation's research and advanced educational system.

(c) The Plan reflects extensive national consultation to determine the most pressing needs and promising initiatives for Canada's future growth and renewal. The Plan has earned wide support from Canada's research constituency.

### 2. Importance of Social Sciences and Humanities Research Support

A strong and dynamic social sciences and humanities research community is an indispensable component of an enlightened, democratic, progressive and equitable society. The understanding of social mechanisms, the knowledge of one's own history and the nature of other societies, the exploration of the fundamental sense of life and being, the provision of policy tools, all constitute necessary conditions of a modern society. The new social and technical configuration that has resulted from the acceleration of technological development requires new knowledge, data, understanding and insights. Moreover, if the vigour of democracy is to be maintained, the essential analytical function of the social sciences and humanities must be nurtured.

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1 As reported in the C.A.U.T. press release on the occasion of the National Economic Conference, March 1985.

> Canada needs to generate its own research capacity to contribute its share to world knowledge, to comprehend and solve its distinctive social and economic problems, and to develop the intellectual capacity needed to have access to and adapt internationally produced knowledge. In the context of international competition and social change, an uncompromising commitment to vigorous support of social sciences and humanities research is vital to our economic and social well-being.
>
> Very similar conclusions have been presented in recent years from many observers across Canada, including the March 20, 1985 statement by Professor Sarah Shorten, President of the Canadian Association of University Teachers.[1]

## 3. Knowledge for the 1990s

The challenges facing Canada in the mid-1980s are born of the recent recession; the increased productivity of the newly developing industrial might of the Pacific rim; and the economic, social and political impacts of new technology. Never before has our future been more dependent on the innovation, creativity and enterprise of our people, for we must move from a resource-based to a knowledge-based society.

Success in the 1990s depends on the investment made now. This investment must lead to an improved capacity for self-understanding, for risk-taking, for seizing opportunities, for increasing productivity, and for meeting and beating competition from around the world.

> The quality of our management, the quality of our technology and, most certainly, the quality of our education are crucial factors in determining how Canada fares as the Information Age unfolds . . . as the Canadian economy shifts from an economy based on mechanical energy to an information economy. (David Vice, President, Northern Telecom)

This realignment of the Canadian economy coincides with a radical restructuring of society itself. From the Constitution and Charter of Rights to life-style changes resulting in more single-parent families, these changes are increasing the current sense of dislocation. Women, native peoples, visible minorities, the handicapped -- all are demanding greater equality within our social, political and economic system.

Predicting that the Charter will bring about "an unprecedented test of our legal, social, and political assumptions," Mr. Chief Justice Dickson recently called for lawyers to "be more imaginative in seeking out buttressing arguments for their clients, and to scour the writings of academics . . ."

Canada's productivity, and hence its trade and wealth, requires increased innovation and inventiveness. Our wealth depends upon our human resources, their intelligence, and originality. The quality of our human resources, in turn, is based on their education and their opportunities to grow in their work. Their skills at all levels depend on our investment in them.

> Knowledge, learning, information and intelligence are the new raw materials of international commerce in this decade and beyond. Economic, technological, and competitive forces are throwing the university and business communities closer together. . . . The education sector . . . is the keeper and disseminator of knowledge from the past, as well as experimenter, creator of new ideas, skill trainer, and extender of the frontiers of human knowledge. (Canadian Manufacturers' Association, A Future That Works)

The social sciences and humanities are basic to any national renewal. They represent the knowledge and wisdom of our forbears and ourselves in coming to terms with our country, its geography, its culture, its opportunities. Graduates in these disciplines are a major resource for business and government.

> Compared to technical graduates, humanities and social science majors have stronger verbal abilities, and are more self-motivated, and show greater openness to change -- important attributes in today's high speed, high pressure, high tech world. (Charles Brown, Chairman, AT&T)

These disciplines have brought us new ways to see the world and ourselves in it. They have brought national accounting, econometric modelling, demographic forecasting, vocational testing, market testing, consumer research, public opinion surveying, program evaluation, organizational theories, analysis of opportunity costs and trade-offs, policy simulations, political and moral philosophy, science policy and language training to boost bilingualism. They have created the concepts by which we comprehend our human environment. Just as the natural sciences explain the natural world, so do the human sciences explain the social, economic, political, moral, emotional and intellectual world in which we exist. Being so basic, they are often ignored.

What we have gained from these sciences in the past is but a portion of the contributions they must make if we are to have a better future.

Advances in technology demand new policies for education, retraining, better management, and industrial and trade strategies. Even in science education, the search for new ways of using technology and of better preparing our students comes from this

research. And advances in medicine, from test-tube babies to life support systems, bring technology and ethics together in life and death decisions.

A successful trade policy requires a knowledge of the cultures, languages, traditions, economic capacity, and management techniques of our trading partners. Without such understanding of our customers and competitors we cannot trade successfully, and productivity is inextricably linked with the best management techniques, improved industrial relations, better marketing, and better integration of the ethic for change within our society. As the Economic Council points out in The Bottom Line, increased productivity and successful trade are the keys to future wealth in Canada.

The social security net, which has helped protect us from many of the social disturbances seen in the 1930s, is increasingly questioned as the deficit grows. The Canadian Manufacturers' Association has called for a rationalization to improve program effectiveness, to cut red tape, and to lower costs. Strategies to achieve such aims will grow from studies of social circumstances, knowledge of the real conditions, the needs of the disadvantaged. Research on the situation of visible minorities, of Native peoples, of single-parent families are but a few of the studies required. Out of these will grow the knowledge needed for wise policy decisions.

## 4. The Federal Government's Role

The federal government's role in supporting these vital human science activities is threefold. First, Canada requires the knowledge gained through human science research to develop the self-understanding needed for an autonomous and durable national life. Second, human science models and government policies alike are often based on foreign assumptions and models that do not fit the Canadian reality. Canadian Studies are needed to meet the exigencies of specifically Canadian conditions and problems. Third, Canada needs a highly educated and flexible workforce if it is to meet the challenge of the post-industrial society that is being created through the revolution in communications and technology. This supposes not only the creation of products that are competitive in the international marketplace, but also the risk-taking and management know-how that makes viable our business and government enterprises.

Federal government involvement in human sciences research and development includes indirect support to universities under established programs financing arrangements and direct channelling of funds through the SSHRC.

In 1984-85 the federal government spent $771.1 million on activities in the social sciences and humanities, up from $449.1 million in 1978-79, the first year of the SSHRC's operations. This represents

the total sum spent on research and related activities within the government and supported by the government in other sectors of the economy. The 1984-85 expenditures are equivalent to those in 1978-79, after inflation has been taken into account. Direct expenditures on R&D have increased by one-third over the period, going from $95.0 million to $125.2 million. This represents a decrease in the support of research by 25 per cent when the 1984-85 figure is netted for inflation. (Of the SSHRC's program budget of $56.8 million in 1984-85, the major part, $34 million, was for research support.) Expenditures on data collection (the largest single activity of government in the social sciences and humanities) went from $142.1 million to $246.3 million; funding has remained stable after inflation.

The following table provides statistics on federal expenditures from 1978-79 to 1984-85:

TABLE 1

Total Federal Expenditures on Activities in the Social Sciences and Humanities, by Activity, 1978-79 to 1984-85

| Scientific Activity | 1978-79 | 1980-81 | 1982-83 | 1984-85 |
|---|---|---|---|---|
| Current expenditures | (millions of dollars) | | | |
| R&D | 95.0 | 88.2 | 111.2 | 125.2 |
| Data collection | 142.1 | 138.0 | 202.1 | 246.3 |
| Economic and feasibility studies | 24.0 | 35.2 | 34.7 | 44.1 |
| Operations and policy studies | 56.2 | 60.8 | 95.6 | 143.2 |
| Other | 131.8 | 154.6 | 185.1 | 212.3 |
| Total | 449.1 | 476.8 | 628.7 | 771.1 |

Source: Statistics Canada.

## B. The Role of the Social Sciences and Humanities Research Council

### 1. SSHRC Structure and Program Planning

In June 1977, Parliament passed the "Government Organization (Scientific Activities) Act, 1976", which created two new granting councils, the Natural Sciences and Engineering Research Council and the Social Sciences and Humanities Research Council, joining the existing Medical Research Council.

Despite its small budget the Social Sciences and Humanities Research Council is Canada's foremost supporter of research, training and communication in the social sciences and humanities. Born of the Canada Council in June 1977, it began its operations in April, 1978. It is a grant-giving body whose mandate is to promote and encourage research and scholarship in the social sciences and humanities and to advise government on research and scholarship in those fields.

This was more than a reorganization measure. While recognizing the traditional roles of universities in research and in the training of researchers, it provided for a portion of federally supported research to be directed toward national objectives. The SSHRC debated these proposals, particularly the principle of "directed" or "strategic" research, and accepted responsibility for identifying research priorities, in consultation with its research community.

TABLE 2

Payments to Canadian Universities for Activities in the Social Sciences and Humanities, 1978-79 to 1984-85

| Department or Agency | 1978-79 | 1980-81 | 1982-83 | 1984-85 |
|---|---|---|---|---|
| | (millions of dollars) | | | |
| SSHRC | 26.5 | 33.3 | 45.5 | 45.6 |
| TOTAL Federal Payments | 40.9 | 45.3 | 60.7 | 90.5 |

Source: Statistics Canada.

### 2. The SSHRC and its First Five-Year Plan

In 1980, the Social Sciences and Humanities Research Council put into operation a first Five-Year Plan for 1980-85 which was approved in principle, but not funded beyond its first year. With this Plan, the Council manifested its commitment to major programs which seek

to attain two goals: to consolidate discipline-based research and scholarship in Canadian universities; and to launch special initiatives in areas identified as being in the national interest. The Council's first Five-Year Plan thus marked the beginning of its support for a broadening range of research efforts which was to include specific issues of social policy. The programs were designed to:

- protect and further the discipline-based research taking place in Canadian universities essential for the generation of new knowledge;

- identify and examine pressing issues of social policy and national concern through programs of targeted research;

- train and prepare the country's talent, vital for its intellectual, social and economic future; and

- expand and render more efficient the communication of knowledge to users, bridging the linguistic and regional communities.

The innovative thrust of the first Five-Year Plan was the emphasis on the need to encourage and support, in the social sciences and humanities, research relevant to the national interest, while maintaining the necessary balance among the different elements of the research endeavour.

## 3. The Council's Programs, 1978-84

The Council has four broad categories of programs: a) Discipline-based Research, b) Targeted Research, c) Human Resources Development, and d) Research Communication. Brief descriptions of each program may be found in Appendix B.

a) Discipline-based Research. A major portion of the Council's budget funds scholarly research in the social sciences and humanities. Through block grants to universities and direct grants to individuals, the Council aims to maintain the level of activity within the research community necessary to develop a basic understanding of society in general, and Canadian society in particular. In all cases, research on the cultural, political, social or economic aspect of human society is proposed by the researcher.

b) Targeted Research. The free play of market forces has not led to sufficient research being undertaken in Canada in certain areas of national importance. The Council has therefore selected a number of priority themes (such as Population Aging, Managing the Organization in Canada, Women and Work) within which increased study provides better information, thus assisting policy-makers in identifying and solving national problems. These programs include the funding of research proposed by scholars in the field, and the support of research infrastructure

(such as purchases of research collections for libraries, the cataloguing of research materials in libraries and archives and support to enhance research activities at small universities).

c) Human Resources Development. To ensure that there are enough trained researchers available to Canada, the Council supports students undertaking doctoral or master's courses of study; it also helps postdoctoral researchers to complete their training and prepare for research work in universities, government or industry.

d) Research Communication. The Council believes that research which remains unknown to others is of no use. It therefore funds programs at the national and international levels which increase the flow of research results and encourage collaborative research between Canadian researchers and researchers abroad.

New programs introduced during the past five years include postdoctoral fellowships; strategic programs; travel grants for international conferences; grants for international collaborative research, for visiting foreign scholars, for Canadian lecturers abroad, and for international congresses in Canada; and bilateral exchange programs with Hungary and China.

Table 3 provides an overall picture of funding patterns for SSHRC programs, including 10 years under the Canada Council from 1968-69, and continuing under the SSHRC from 1978-79. It documents a steady reduction of capacity despite a growing clientele and higher research costs.

TABLE 3

Social Sciences and Humanities Research Council
Pattern of Funding in Millions of Current Dollars
1968-69 to 1983-84

| | Canada Council | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1968-69 | 1969-70 | 1970-71 | 1971-72 | 1972-73 | 1973-74 | 1974-75 | 1975-76 |
| **Discipline-based Research** | | | | | | | | |
| Research Grants | 2.9 | 4.3 | 4.3 | 3.7 | 4.2 | 4.9 | 5.3 | 5.7 |
| Leave Fellowships | 1.3 | 1.0 | 1.3 | 1.9 | 2.4 | 2.9 | 3.3 | 3.8 |
| Negotiated Grants | - | - | - | - | - | - | - | 1.2 |
| General Research Grants | - | - | - | - | - | - | 0.3 | 1.2 |
| Special Grants | 0.1 | 0.1 | 0.2 | 0.1 | 0.4 | 0.3 | 0.4 | 0.6 |
| | 4.3 | 5.4 | 5.8 | 5.7 | 7.0 | 8.1 | 9.3 | 12.5 |
| **Targeted Research** | | | | | | | | |
| Themes | - | - | - | - | - | - | - | - |
| Areas and Research Facilities | 1.0 | 0.1 | - | - | - | - | - | - |
| | 1.0 | 0.1 | - | - | - | - | - | - |
| **Human Resource Development** | | | | | | | | |
| Doctoral Fellowships | 9.3 | 10.8 | 11.3 | 11.0 | 8.8 | 9.1 | 8.7 | 8.8 |
| Special MA Scholarships | - | - | - | - | 0.4 | 0.5 | 0.6 | 0.7 |
| Postdoctoral Fellowships | 0.3 | - | - | - | 0.2 | 0.3 | 0.2 | - |
| | 9.6 | 10.8 | 11.3 | 11.0 | 9.4 | 9.9 | 9.5 | 9.5 |
| **Research Communication** | | | | | | | | |
| Publication | 0.3 | 0.3 | 0.5 | 0.7 | 1.2 | 1.3 | 1.8 | 1.6 |
| Learned Societies | - | - | 0.2 | 0.3 | 0.5 | 0.3 | 0.5 | 0.6 |
| Conferences | 0.4 | 0.5 | 0.4 | 0.4 | 0.5 | 0.7 | 0.7 | 0.5 |
| International Relations | - | - | - | - | - | - | - | - |
| Public Awareness | - | - | - | - | - | - | - | - |
| | 0.7 | 0.8 | 1.1 | 1.4 | 2.2 | 2.3 | 3.0 | 2.7 |
| | 15.6 | 17.1 | 18.2 | 18.1 | 18.6 | 20.3 | 21.8 | 24.7 |
| **Constant Dollars (1968=100)** | 15.6 | 15.8 | 15.9 | 14.9 | 14.3 | 14.3 | 13.3 | 13.0 |

Note: The deflator used is the Implicit Price Index of the Gross National Product - Current Government Expenditures on Goods and Services.

TABLE 3 (continued)
Social Sciences and Humanities Research Council
Pattern of Funding in Millions of Current Dollars
1968-69 to 1983-84

| SSHRC | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1976-77 | 1977-78 | 1978-79 | 1979-80 | 1980-81 | 1981-82 | 1982-83 | 1983-84 | Budget 1984-85 | Estimates 1985-86 |
| 5.2 | 6.2 | 8.3 | 7.3 | 8.1 | 11.1 | 15.5 | 16.0 | 16.8 | 17.4 |
| 3.8 | 4.0 | 3.6 | 4.7 | 4.3 | 3.9 | 3.9 | 3.0 | 3.5 | 3.1 |
| 3.3 | 2.2 | 4.2 | 4.9 | 5.6 | 5.3 | 5.5 | 5.0 | 5.2 | 5.2 |
| 1.0 | - | 1.2 | 1.3 | 2.7 | 1.1 | 0.9 | 1.8 | 2.0 | 0.8 |
| 0.4 | 0.4 | 0.1 | 0.1 | 0.1 | 0.3 | 0.2 | 0.4 | 0.2 | 0.2 |
| 13.7 | 12.8 | 17.4 | 18.3 | 20.8 | 21.7 | 26.0 | 26.2 | 27.8 | 26.7 |
| - | - | - | 0.7 | 0.6 | 1.4 | 2.3 | 3.5 | 3.5 | 2.0 |
| - | 2.0* | - | 0.7 | 1.3 | 2.3 | 4.1 | 3.7 | 3.8 | 3.3 |
| - | 2.0* | - | 1.4 | 1.9 | 3.7 | 6.4 | 7.2 | 7.3 | 5.3 |
| 9.7 | 10.2 | 9.1 | 8.3 | 8.4 | 9.1 | 9.9 | 11.1 | 11.1 | 11.7 |
| 0.8 | 0.7 | 0.6 | 0.8 | 0.8 | 0.8 | 1.0 | 1.1 | 1.1 | 1.1 |
| - | - | - | - | 0.8 | 1.8 | 2.3 | 2.5 | 2.7 | 3.4 |
| 10.5 | 10.9 | 9.7 | 9.1 | 10.0 | 11.7 | 13.2 | 14.6 | 14.9 | 16.2 |
| 1.9 | 1.9 | 1.9 | 2.3 | 2.5 | 2.5 | 2.9 | 2.8 | 3.2 | 2.8 |
| 0.5 | 0.5 | 0.9 | 0.9 | 1.6 | 1.3 | 1.1 | 1.8 | 1.5 | 1.7 |
| 0.6 | 0.4 | 0.3 | 0.4 | 0.4 | 0.5 | 0.6 | 0.6 | 0.7 | 0.7 |
| - | - | 0.2 | 0.4 | 0.6 | 0.8 | 1.0 | 1.1 | 1.2 | 1.2 |
| - | - | - | - | - | - | 0.1 | 0.1 | 0.1 | - |
| 3.0 | 2.8 | 3.3 | 4.0 | 5.1 | 5.1 | 5.7 | 6.4 | 6.8 | 6.4 |
| 27.2 | 28.5 | 30.4 | 32.8 | 37.8 | 42.2 | 51.3 | 54.4 | 56.8 | 54.6 |
| **Constant Dollars (1968=100)** | | | | | | | | | |
| 12.6 | 12.0 | 11.8 | 11.9 | 12.1 | 11.9 | 12.9 | 12.9 | 12.8 | 11.6 |

* Canadian Institute for Historical Microreproductions

## C. The First Five-Year Plan, 1980-81 to 1984-85

In its first Five-Year Plan, accepted by government in 1979, the SSHRC proposed the following options:

- An annual funding increase equivalent to the anticipated growth in the Gross National Product (GNP) which would permit the Council primarily to support a very modest improvement in the existing base of independent research in the social sciences and the humanities.

- A phased expansion in real funding to a level necessary to respond fully to the research needs perceived by the scholarly community at GNP plus 17 per cent annually.

- An annual funding increase equivalent to the growth in GNP plus five per cent which would allow the SSHRC to expand more adequately its major new effort to promote research ventures in areas of national importance.

The SSHRC recommended the third option, which entailed:

- Establishment of a new program of postdoctoral fellowships.

- Greatly expanded funding for research on themes of national importance, to $13.5 million by 1984-85.

- A moderate increase of Research Grants, to $10.7 million in 1984-85.

- Growth in the General Research Grants program at the rate of GNP plus five per cent. The extra growth would go mainly to smaller, more isolated universities, as a way of helping overcome regional imbalances in access to research resources.

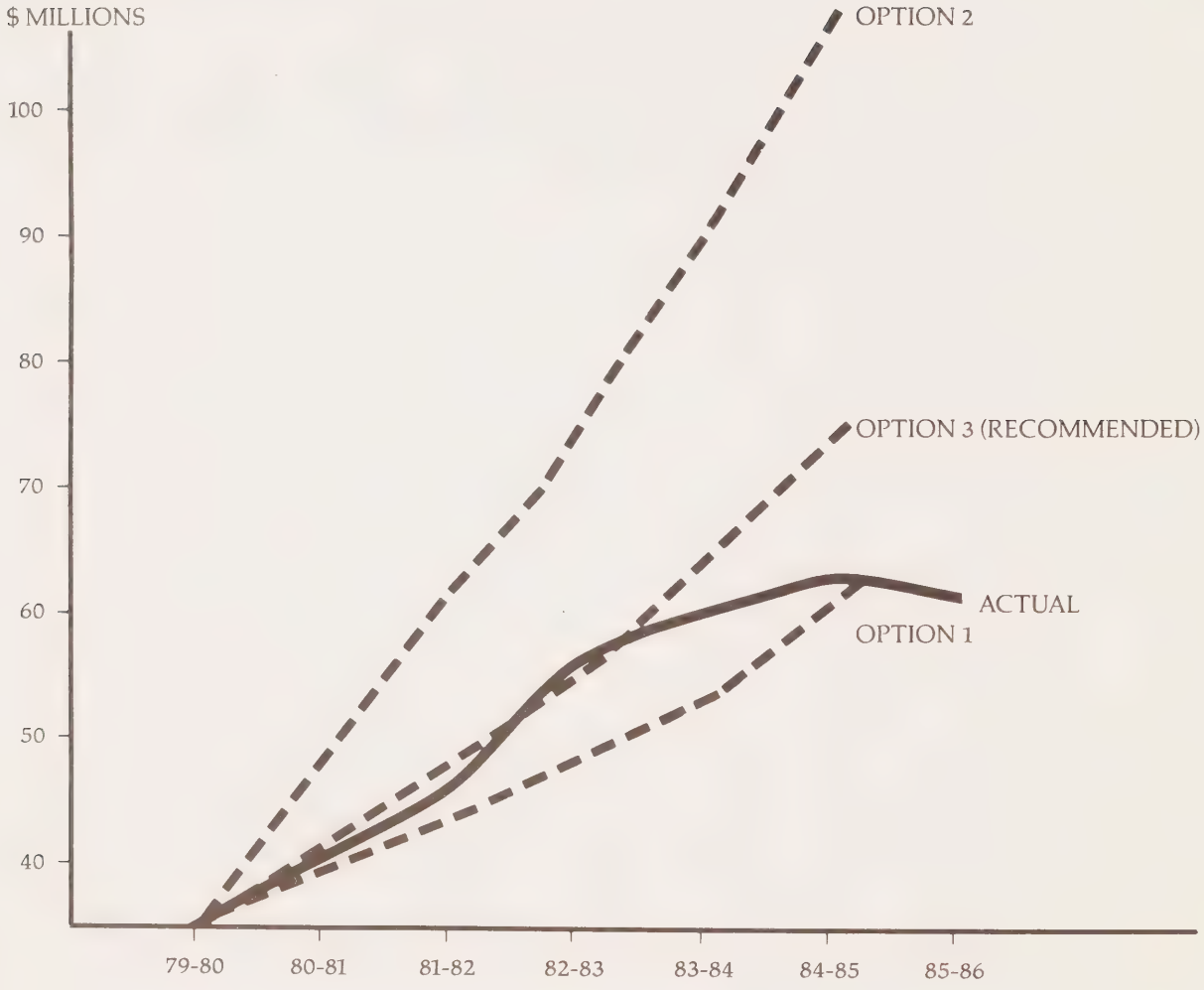
- $3.5 million in 1984-85 for research facilities and instruments. The extra funds would be used to create a national reference centre for scholars and to improve facilities for sharing and distributing those research materials which are available only in a few places.

- The launching of two other small programs of national significance. The first would provide core funding for a few centres of excellence. The second would finance exchanges of professors among regions.

- A substantial increase for public awareness and for learned societies.

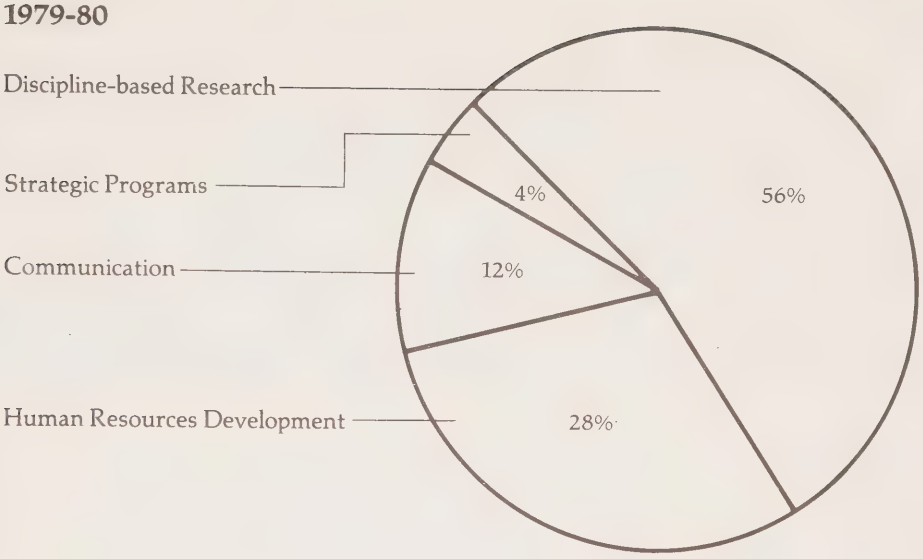
As it happened, the budget grew at a lower rate than Option Three, just equivalent to Option One in 1984-85, the most restrained of the three options presented. Table 4 and Figures 1 and 2 show SSHRC adjustments to the resources available. The next sections provide further details at the program level.

**Figure 1**
**Proposed and Actual Funding Levels**
**First Five-Year Plan 1979-80 to 1984-85**

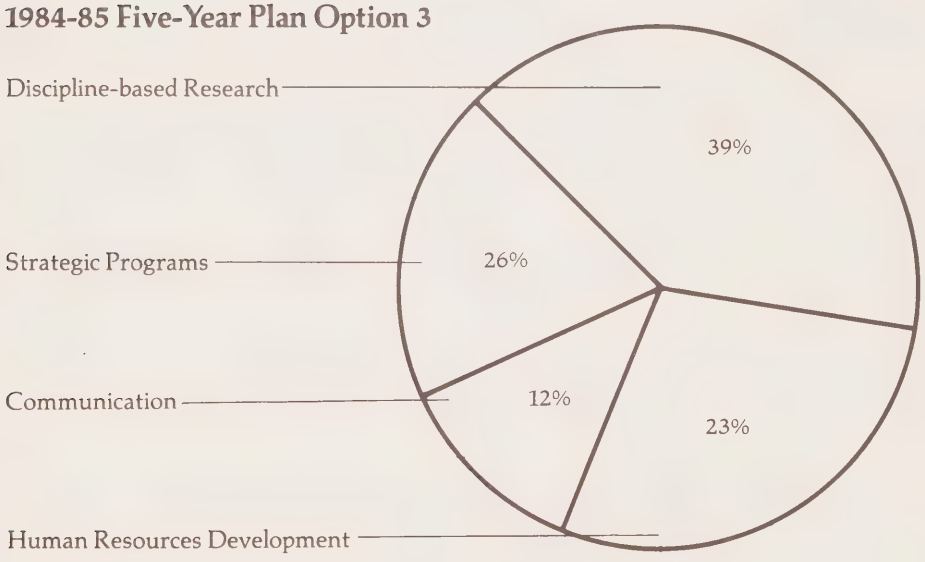


## Figure 2

### 1979-80




### 1984-85 Five-Year Plan Option 3




### 1984-85 Actual

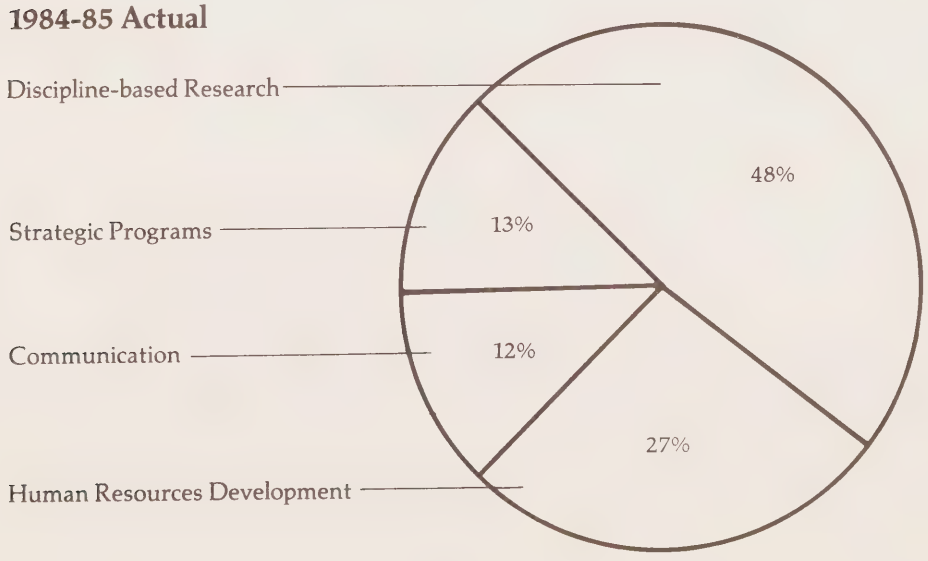


TABLE 4

First Five-Year Plan
Options Compared with Actual Budget

| | 1979-80 | 1984-85 | | | |
|---|---|---|---|---|---|
| | | OPTION ONE (GNP) | OPTION TWO (GNP + 17%) | OPTION THREE (GNP + 5%) | ACTUAL BUDGET* |
| | | (thousands of dollars) | | | |
| Discipline-based Research | 18,300 | 26,285 | 35,000 | 26,935 | 27,744 |
| Strategic Programs | 1,400 | 6,000 | 27,000 | 18,200 | 7,405 |
| Human Resources Development | 9,100 | 15,550 | 25,100 | 15,550 | 14,910 |
| Research Communication | 4,000 | 7,515 | 11,800 | 8,315 | 6,700 |
| TOTAL | 32,800 | 55,350 | 98,900 | 69,000 | 56,759 |

* This option was approved in principle by Cabinet in late 1979, but was not fully funded.

## 1. The Accomplishments of the First Five-Year Plan

### 1.1 Discipline-based Research

Fostering basic research has remained the most important activity of the Social Sciences and Humanities Research Council over the last five years, representing 50 per cent of the Council's cumulative budget. The Research Grants and Leave Fellowships programs centre on individual grants to researchers, and a very limited number of major grants have subsidized larger research activities such as analyses of science education and the study of children's culture. In addition, a Negotiated Grants sub-program makes possible the publication of such enduring major works as the celebrated Dictionary of Canadian Biography, the Historical Atlas of Canada, the Corpus d'éditions critiques de littérature canadienne-française et québécoise, and the Trésor de la langue française au Québec et dans les régions limitrophes.

In the Council's first Five-Year Plan, one of its stated priorities was to expand substantially the level of support available to the research community, principally through its

Research Grants program. The results of this drive have been startling. The number of requests for Research Grants nearly doubled from 834 in 1979-80 to 1,435 in 1983-84. The same cannot be said for the number of awards, however, since the funds available to the Council did not provide the necessary increase in the program budget to make this possible. Indeed, one result of the larger number of applications has been an increase in thoserejected: the number of Research Grants awarded went up from 603 in 1979-80 to 835 in 1983-84; over that same period, the percentage of applications refused rose from 28 per cent in 1979-80 to 42 per cent in 1983-84.

TABLE 5

Research Grants
(Includes Renewal Applications)

| | Applications | Awards | | Award Ratio |
|---|---|---|---|---|
| | # | # | $ (thousands) | % |
| 1979-80 | 834 | 603 | 7,100 | 72.3 |
| 1980-81 | 801 | 619 | 8,100 | 77.3 |
| 1981-82 | 964 | 645 | 11,100 | 66.9 |
| 1982-83 | 1,183 | 802 | 15,900 | 67.8 |
| 1983-84 | 1,435 | 835 | 15,700 | 58.2 |
| 1984-85 | 1,268 | 846 | 15,200 | 66.8 |

Table 6 provides information on new applications to the program. The decrease in the number of first-time successful applicants means that deserving applications are turned down, according to our selection committees, solely because of lack of funds. As Table 6 indicates, the funding ratio of first-time applications has dropped from 67 per cent in 1979-80 to about 50 per cent in 1983-84.

In 1984-85, applications fell to 1,268, while awards remained at 846. The cause was a decrease in the number of new applications; renewals remained at the 1983-84 level.

The impact of increased numbers of applications, despite SSHRC's efforts to provide increased funding through internal reallocation, is evident. From two-thirds of applicants receiving support, the proportion fell to one-half in 1983-84. Again, it is clearly the drop in applications which allowed the success rate to climb for new applicants in 1984-85.

TABLE 6

Research Grants
(New Applications Only)

| | Applications # | Awards # | Awards $ (thousands) | Award Ratio % |
|---|---|---|---|---|
| 1979-80 | 695 | 464 | 5,700 | 66.8 |
| 1980-81 | 660 | 478 | 6,300 | 72.4 |
| 1981-82 | 823 | 504 | 8,500 | 61.2 |
| 1982-83 | 987 | 608 | 11,900 | 61.6 |
| 1983-84 | 1,215 | 615 | 10,500 | 50.6 |
| 1984-85 | 1,042 | 620 | 10,600 | 59.5 |

Canadian Studies Research Support

The SSHRC has expanded its support of Canadian Studies research which it defines as: "Research, research training, communications and related activities in the fields of the social sciences and humanities to promote knowledge about Canada by dealing with aspects of Canada's cultural, social, political and economic conditions, physical setting and place in the world." The Council has always promoted research and related activities which further our knowledge of Canada, its history and heritage, its social, economic and cultural life, its opportunities and achievements. After wide consultation with the academic community and a review of studies undertaken for the Council and for other agencies, the SSHRC declared Canadian Studies a priority in 1980. In keeping with the mandate of the Council, the criterion of excellence was not changed.

In 1982-83 the SSHRC received $2 million to increase its support of Canadian Studies through its Research Grants program. As Table 7 shows, the funds provided to Canadian Studies research went up by almost twice that amount and this higher level of funding has continued through 1984-85. This has been made possible by a reallocation of funds to the Research Grants program from other Council activities, in line with the high priority the Council and its constituency accords to the support of discipline-based research.

TABLE 7

SSHRC Research Grants: Canadian Subjects or Data*

| | Total: from SSHRC Annual Reports | Canadian Content | Proportion |
|---|---|---|---|
| | (millions of dollars) | | % |
| 1979-80 | 7.3 | 3.7 | 50.4 |
| 1980-81 | 7.7 | 4.0 | 52.5 |
| 1982-83 | 15.9 | 7.8 | 49.3 |
| 1984-85** | 10.6 | 6.0 | 56.6 |

* The years shown are the only years for which data on Canadian content are available.
** New applications only.

From the relatively stable level of support during the period 1979-80 to 1980-81 (from $3.7 million to $4.0 million) there was a dramatic increase to $7.8 million spent on Canadian Studies research in 1982-83. Although the information for 1984-85 covers new applications only, it is clear that the proportion of funding allocated to Canadian Studies has continued to increase.

Pressure of Need

The drop in applications in 1984-85 seems to be tied to the number of disappointed applicants. Although this has the effect of increasing the award rate of the program over the 1983-84 low, the decrease in applications is contrary to our mandate to stimulate research.

Over the past ten years, as shown in Table 8, the program has received applications from 7,363 individuals. Nearly two-thirds of these have applied only once, with an award ratio of 36 per cent. A further 30 per cent have applied twice or three times, with an award ratio of 47 per cent. Thus, 92 per cent of the applicants to the program applied three times or less, over a ten year period. We suspect that this situation especially discourages young scholars, a high percentage of whom are women just now establishing their place in academe.

TABLE 8

Applicants to Research Grants Program
1974 to 1984

| Frequency of Application | Number of Applicants | Number of Applications | Award Ratio |
|---|---|---|---|
| 1 | 4,555 | 4,555 | 36% |
| 2 | 1,531 | 3,062 | 47% |
| 3 | 641 | 1,923 | 47% |
| 4 | 336 | 1,344 | 54% |
| 5 or more | 300 | 1,781 | 53% |
| Total | 7,363 | 12,665 | 45% |

The result is that few researchers obtain steady, predictable support from the Council. This discourages the undertaking of certain types of research, especially long-term and longitudinal studies, major surveys and research requiring field work or making extensive use of research assistants. This situation reduces the ability of the program to support graduate students and shrinks the cadre of research assistants whose knowledge and expertise would greatly increase the productivity of researchers. Without increased continuity of funding there cannot be an effective response to government and the private sector for mission-oriented research. At the existing level of SSHRC funding this continuity cannot be created.

To help ensure that the existing funds go further, the SSHRC has established a task force of Council members to examine the procedures and administration of the Research Grants program and to recommend ways to improve both its efficiency and its effectiveness. A simplified application procedure and a conscious effort to provide more stable funding are the cornerstones of this review.

Relevance of Research

It is clear that a high proportion of work supported by the Research Grants Program (initiated by the researcher) has immediate practical relevance to the concerns of business, government and voluntary sector (see Table 9).

The scholarly community and the Council, however, both caution against judging the value of all research according to its immediate applications. As the Introduction to this document implies, the task of adapting to social and technological change while maintaining fundamental democratic and humane values equally requires the skill and habit of critical selection free of external direction. That remains the primary objective of education in the humanities and social sciences, and its value must be respected in research funding whatever new priority is attached to target areas. Both are vital to the national interest.

TABLE 9

1984-85 Research Grants
by Subject Areas

| | $ | % |
|---|---|---|
| Arts & culture | 530,698 | 5 |
| Communications | 82,560 | 0.8 |
| Economic, regional & industrial development | 738,619 | 7 |
| Education | 1,056,602 | 10 |
| The elderly | 26,993 | 0.3 |
| Employment & immigration | 154,456 | 2 |
| Energy & environment | 118,233 | 1 |
| Foreign affairs | 85,756 | 0.8 |
| Health, welfare & social development | 1,261,357 | 12 |
| Justice | 293,276 | 3 |
| Native peoples | 150,436 | 1 |
| Northern development | 12,931 | 0.1 |
| Science & technology | 86,277 | 0.8 |
| Women | 41,138 | 0.4 |
| Youth | 139,176 | 1 |
| Transportation | 29,126 | 0.3 |
| Advancement of knowledge | 5,762,135 | 55 |
| TOTAL | 10,569,769 | 100 |

## Job Creation

One of the most important aspects of SSHRC research support is that it creates jobs, especially for young people. A recent SSHRC study by John Adair and Robert Davidson has shown that 679 researchers created 213 full-time and 872 part-time positions. In addition, they employed 502 graduate and 275 undergraduate

students. Of course, fellowships support is a superior kind of job creation. Not only do the grants and fellowships create work, but they provide on-the-job training as well. Grants awarded by the SSHRC serve the three-fold purpose of supporting research,training teachers and developing the highly qualified workforce Canada requires to compete in modern world markets. Canada must have managers and decision-makers, competent not only to increase productivity in a fast-changing technological age, but also to use our human resources more effectively. The same Council study shows that researchers in the social sciences supported by the SSHRC are very productive, averaging almost two publications a year.

Further information about the development of the Research Grants program during the years governed by the first Five-Year Plan may be found in Appendix C.

## 1.2 Targeted Research on Themes in the National Interest

A significant accomplishment of the first Five-Year Plan has been the introduction of targeted research. A modest complement to the Council's basic research support programs, it grew from one theme only in 1979-80 (Population Aging) to five in 1983-84. These programs encourage new approaches to research, particularly by fostering interdisciplinary research, building information networks among concerned scientists and policy-makers from different professions, disciplines and geographic areas, and nourishing the intellectual base for policy-making.

Since 1981-82, the SSHRC has introduced new programs: Family and Socialization of Children, the Human Context of Science and Technology, Managing the Organization in Canada, and Women and Work, together with support for research centres in the Population Aging program.

Examples of targeted research projects funded by the Council, relevant to Canada's economic and social renewal, include:

(a) Population Aging:
- Economic and Social Implications of an Aging Population
- Potential Effects of an Increasingly Aging Work Force on the Staffing and Managing of Organizations

(b) Women and Work:
- Effect of Income Tax Policy on Women
- L'entrepreneur féminin au Québec
- Women, Work, and the Economic Crisis of the 1980s

(c) Human Context of Science and Technology:
- Office Automation and Clerical Workers
- Les effets sociaux de la robotique sur la conception du travail industriel

(d) Managing the Organization:
- Mergers, Competition and Public Policy in Canada: An International Perspective
- Les processus d'adoption des technologies nouvelles par les P.M.E.
- Entrepreneurship and Innovation in Smaller Canadian High Technology Firms

Investment in such research has climbed from under $1 million in 1979 to around $3.5 million in 1984. As a result, Canada is gaining an original body of research which helps to provide a better understanding of the country's social, economic, cultural and political situation.

Research Infrastructure

Other components of the strategic programs area are the infrastructure programs which focus on three initiatives: Canadian Studies Research Tools, Support to Specialized Collections, and Aid to Small Universities. These programs grew from $700,000 in 1979 to over $3.5 million in 1984.

a) Canadian Studies Research Tools

This program was introduced in 1981 and designed to provide assistance to institutions and organizations that need to establish or improve catalogues and finding aids to what have sometimes been virtually inaccessible collections of Canadian materials. The aim of the program is to ensure a well developed and coordinated infrastructure of resources for research. The program complements the one designed to strengthen specialized collections in university research libraries. Support is given to projects such as bibliographies on topics as diverse as Canadian education, work relations, Canadian science and technology, theatre history in Canada and Québec and French-Canadian literature. In one of the most valuable historical finds in years, a team of Halifax researchers has uncovered a treasure of turn-of-the-century Canadiana which had been sent to Britain between 1897 and 1924 and was tucked away in old files and cabinets in Woolwich. The originals of these materials in Canada had been destroyed or lost through fire. With a grant from the program, the team is sorting and cataloguing the collection which includes books, photographs, music, maps, and miscellaneous trade material. Taken together, the collection represents a valuable research resource in Canadian social history.

b) Small Universities

Special consideration of the problems of small universities was a priority in the first Five-Year Plan because of Canada's enormous distances and distinct regions. The fostering of an

adequate research base and the stimulation and facilitation of research in all parts of the country, not just the major centres, required special assistance to universities suffering the disadvantages of size and location. This program was intended to stimulate regional development and communication. Small universities have a particular role to play in the amelioration of regional concerns in this country.

The level of support has only been sufficient to provide seed money for the development of a variety of initiatives in each of the eligible institutions. The available resources ($25,000 annually to each university) have never been sufficient to meet the priorities identified by the institutions. Thus the range of activities supported under the program to date has been constrained by the available budget; they would not normally be eligible for support within any of the Council's other programs.

Small universities used the program to provide incentive grants to facilitate travel for research purposes; to encourage research collaboration and the establishment of interdisciplinary research teams; to support workshops for the improvement of research skills and experience; to give modest grants for pilot projects which later become fully developed applications suitable for submission to the Council's regular programs in aid of acquisition of research resources; and to establish research centres or institutes generally oriented to regional issues and problems, such as:

- The Gorsebrook Institute for Atlantic Canada Studies (St. Mary's)
- The Frost Centre for Canadian Studies (Trent)
- The Eastern Townships Research Centre (Bishop's)
- Le Groupe d'études des ressources maritimes (Université du Québec à Rimouski)
- The Northern and Regional Studies Centre (Lakehead)

What began as a modest thrust has evolved into an enthusiastically received and highly productive program, regrettably unable to support a full range of activities at each of the universities. By providing the means to stimulate and increase the research capacity and activity of a particular group of universities, the program has created an increase in research, and thus an increased demand.

The Aid to Small Universities program currently supports 21 institutions and has an annual budget of just over $500,000. The SSHRC has decided to freeze the program at this level, admitting no new universities and holding the $25,000 ceiling until its budgetary situation improves.

c) Research Collections

With the emergence of new information-processing technologies, the role and the scope of the university research library has changed radically. The library information system has expanded through the use of inter-library loans and computer-based cataloguing systems. Recent experiments in Canada with integrated information networks, through the National Library, and similar developments in the United States, indicate that there will be a growing use of computer and communications technologies to enhance the collection of any given research library.

Regardless of the sophistication of the systems, however, they have little use without up-to-date collections providing researchers with the most current information in their fields. A SSHRC report, Solitudes and Communities, catalogues the decline of university research collections since the 1960s. Acquisition costs have outstripped both the available budgets and the rate of inflation.

A measure of the existing state of university libraries is the comparison of holdings of the top 100 research libraries in the United States and Canada. Only two Canadian collections came within the top 20. McGill University's collection, for example, ranks 45th, and Queen's is 85th in the list. A report by the Ontario Council on University Affairs in 1979, System on the Brink, estimated that the total value of acquisitions of books and journals since 1972 had declined by over 30 per cent.

To help remedy this situation, the SSHRC introduced a small program of Support to Specialized Collections in 1979. The program imposed a ceiling of $50,000 per institution to ensure an equitable distribution of its $700,000 budget.

State-of-the-Art Reviews

Another noteworthy initiative of the first Five-Year Plan has been the launching of state-of-the-art reviews in professional fields, coupled with consultation preliminary to establishing targeted research areas. The Council adopted the major recommendations of the first group on business management and administrative studies which led to the establishment of several management research and training programs. Work on education research has had a massive response within the country, while the report of the Consultative Group on Law and Learning quickly gained international recognition. Consultation on research on science and technology, women, family studies, business administration, and Native peoples, has brought the Council closer to the community and has opened the doors for new, innovative and highly relevant research activity.

All these programs are directed at national problems of great importance to the country. Without exception, they relate to government target groups and priorities. The following list of existing and potential themes relates them to priorities and target groups for the 1980s. Some fall within more than one category.

| | |
|---|---|
| The Elderly | - Population Aging<br>- Human Context of Science and Technology |
| Young People | - Family and Socialization of Children<br>- Women and Work<br>- Education for a Changing Society* |
| Women | - Women and Work<br>- Human Context of Science and Technology |
| Native Peoples | - Native Issues* |
| Economic Development | - Management Studies<br>- Human Context of Science and Technology<br>- Education for a Changing Society* |

* Proposed new theme.

Preparing for Future Themes

New themes are planned. Starting with commissioned state-of-the-art reviews, the Council has built a picture of the greatest national needs for education research. In a period of high youth unemployment, when reports indicate inadequacy in current education to meet the challenges of rapidly changing technology and market patterns, the SSHRC proposes a new theme on Education for a Changing Society. Particular stress in this research would be laid on the match between education and the job market, the impact of technology on education and the financing of education.

The Council has consulted extensively over the past three years with Native and non-Native researchers and non-researchers and proposes to introduce a new theme supporting research on Native Issues. Particular emphasis would be placed on research where priorities are determined by Native communities. Training Native researchers so that Native communities develop the capacity to undertake their own research, and innovative approaches for the communication of research results to Native groups, would be encouraged.

Council is also studying such areas as Development in the North, and Law, as potential subject areas for targeted research funding.

## A High Level of Interest

The targeted research support programs have brought demand far exceeding the Council's projections, based on wide consultation before the introduction of these themes. In 1981-82, the seven themes and areas were processing 270 applications and providing 175 awards worth $3.5 million. The amount awarded doubled in the following year, and by 1983-84 the Council was facing a crisis with its priority research programs. At the beginning of that fiscal year, the Council had commitments for these programs totalling $3 million. During the course of the year, new requests came in, totalling $14 million. Thus, a $17 million pressure had to be met through a budget of just $7 million. What made this situation explosive and ironic at the same time, was the effort the Council had expended to stimulate research in themes of national importance against the initial opposition of some in the research community.

In 1984-85, with the long delay in announcing the SSHRC's budget, the growth in the targeted programs was reversed. The final announcement that funds were to be fully available to these programs was not made by the government of the day before the deadline for applications, the 1st of June. In the months prior to that deadline rumours swept the social sciences and humanities community that the programs were to be dropped. SSHRC staff received many telephone calls from worried researchers. The result is clearly presented in Table 10. From the high point of 1983-84, applications dropped by a dramatic 50 per cent, thus jeopardizing the thrust of this program so essential to economic renewal and social justice.

TABLE 10

Targeted Research Programs, 1982-83 to 1984-85

| | 1982-83 | | 1983-84 | | 1984-85 | |
|---|---|---|---|---|---|---|
| | Applied | Awarded | Applied | Awarded | Applied | Awarded |
| Population Aging | 56 | 28 | 81 | 45 | 33 | 20 |
| Human Context of Science and Technology | 30 | 20 | 51 | 28 | 29 | 18 |
| Family and the Socialization of Children | 27 | 19 | 35 | 18 | 24 | 15 |
| Women and Work | - | - | 124 | 57 | 49 | 20 |
| Managing the Organization in Canada | - | - | 172 | 67 | 45 | 18 |
| Total | 113 | 67 | 463 | 215 | 180 | 91 |

Once again in 1985-86, funding for targeted research is uncertain. The 1984-85 budget of $7.2 million has dropped to $5.3 million in 1985-86, as a result of the loss of the $3.9 million supplementary funds voted in the most recent fiscal year. The situation will worsen in 1986-87, when an additional $2 million long-term supplementary funding will disappear from the SSHRC's budget.

Evaluation of Strategic Programs

Three of the strategic programs have now been subject to an evaluation (see Appendix D). The first, the Aging Population, was found to have made an enormous contribution to research in this little-known area, funding many projects which otherwise could not have been carried out. The program has yet to achieve the critical mass of self-sustaining research, however, that it was designed to promote. Furthermore, the support of research centres began late in the life of the theme, so that these institutions are hardly established. It is evident that several additional years of support are required to provide Canada with a substantial knowledge base on the effects of an aging population and the research capacity to sustain this base. Given the positive report on the quality of the work supported by the program and the real promise of the research centres to become long-term focal points for research, training, and contact with the community, the SSHRC decided in 1984 to continue funding the theme for a second term. Should funds permit, the Council will support research activities on Population Aging on a priority basis until 1989.

In 1980 the Council launched a special series of programs to improve the number of qualified people engaged in teaching and research in Canada's faculties of management and business administration. An evaluation of these activities has revealed that the investment, which at its peak involved one million dollars a year, was inadequate in relation to the scale of the problem. The evaluation recommends a more strategic approach, directly related to increasing the supply of PhD graduates in the area. To improve productivity and aid in economic renewal Canada needs a far stronger effort in research, research training and communication in management studies and business administration. Despite this national need, the capacity to provide this strategic research diminishes with the loss of supplementary funding. Revitalizing this initiative is part of the next Five-Year Plan.

The SSHRC's support of library acquisitions to provide more adequate collections for researchers has also been reviewed. A SSHRC study of the general situation, by Terry Cheney, was published by the Council in 1983. An evaluation of the program has been carried out subsequently. These studies show that, despite the special funding provided by the Council, research libraries at Canadian universities are unable to maintain world class collections with their existing budgets. The evaluation proposes a more flexible and generously funded program as the

means to build national research collections. The SSHRC has already moved to open the program to a greater range of acquisitions and collections. It also proposes to enlarge the program's budget, along the lines suggested in these reports. More information on these evaluations may be found in Appendix D.

Targeted research on themes of national interest is now firmly established as one of the principal activities of this Council. The funded research is addressing questions of fundamental importance to the future health and well-being of Canadian society. The momentum should not be lost. New funds must be found to ensure that these areas of research receive the attention Canada needs. Policy development on issues of crucial importance to the country should not be limited by the lack of targeted research.

The challenge is to build on the strength generated and to introduce the additional themes over the next few years. Without a substantial increase in the SSHRC's base budget, one of the major achievements of the first Five-Year Plan will be lost. The Council needs to recover its supplementary funding for this purpose and to obtain the additional resources needed to bring innew themes.

A report on the first six years of support of targeted research is attached as Appendix D.

### 1.3 Human Resources Development

Of the Social Sciences and Humanities Research Council's budget over the last five years, 27 per cent has been devoted to providing the country with highly qualified personnel: 5,466 doctoral fellowships, and 551 MA scholarships were awarded through SSHRC's programs. A major initiative related to the development of the research and educational capacity of the country and launched during the Five-Year Plan is the Postdoctoral Fellowships program. Introduced in 1980, this program has supported 450 researchers, retaining them within the Canadian university research community and allowing them to improve their research skills while contributing to the advancement of knowledge. In addition, approximately 20 per cent of the Council's research support provides employment and training of students as assistants in research projects, according to a 1984 SSHRC study of social sciences research.

In its first Five-Year Plan, the SSHRC identified the lack of research-related openings for recent doctoral graduates as one of the major problems facing the research community.

> The recent drop in new university and research employment opportunities implies that few excellent young researchers will readily find work in their fields. The Council considers

> that, in view of the need for new blood in research as elsewhere, there should be implemented a modest program of fellowships to allow some of the best doctoral graduates to establish themselves as researchers. It would be expected that after one or two years' experience through this program, the young researchers would be much better able to obtain suitable permanent employment in research. To begin, we would restrict our help to a few dozen people, increasing to about 100 by 1984-85.

Postdoctoral Fellowship

This program provides up to two years of support to recent doctoral graduates to allow them to continue their research careers. Even though postdoctoral work had not been a tradition in the social sciences and humanities, the program was an instant success. The first competition processed over 200 applications the number has now grown to over 300 in the latest competition.

Table 11 provides information on the growth of the Postdoctoral Fellowship program. Originally intended to support between 30 to 40 new fellows per year, the program has attracted far more qualified applicants than anticipated. The SSHRC has expanded the program's budget to the limit in an attempt to support as many as possible. This endeavour has been helped by the relatively low renewal rate of just over 75 per cent during the first six years of the program. Had it averaged 90 per cent, as predicted in 1980, the program's intake of new candidates would have been substantially smaller.

TABLE 11

Postdoctoral Fellowships

| Year | New Requests | Awards | Award Ratio % | Renewals | Total | Program Budget (thousands) |
|---|---|---|---|---|---|---|
| 1980-81 | 207 | 58 | 28.0 | - | 58 | 809 |
| 1981-82 | 161 | 98 | 60.9 | 33 | 131 | 1,816 |
| 1982-83 | 185 | 67 | 36.2 | 69 | 136 | 2,262 |
| 1983-84 | 243 | 63 | 25.9 | 62 | 125 | 2,486 |
| 1984-85 | 265 | 73 | 27.6 | 49 | 122 | 2,424 |
| 1985-86 | 303 | 91 | 30.0 | 63 | 154 | 3,360 |

## Doctoral Fellowships

In the SSHRC's first Five-Year Plan support for doctoral fellows was to have been kept at the same level, with an annual addition only for inflation. Pressure from other sectors, particularly discipline-based research, caused the Council to deduct funds from the Doctoral Fellowships budget up to 1981-82. Since then, as Figure 3 shows, it has remained stable.

Coincident with this decline in budget, the program has experienced a marked and unexpected increase in applicatons since 1982-83. The anticipated drop in enrolments, predicted in the late 1970s, did not occur; on the contrary, enrolment has grown steadily, as also shown on Figure 3.

Projections undertaken for the Council indicate that this trend in enrolments will continue until at least 1991. Recent projections by Statistics Canada, prepared for the Secretary of State Department, indicate a similar pattern. As a result, the SSHRC now anticipates continuing increases in applications to the program to the end of the second Five-Year Plan. Should the application rate follow the enrolment trend, the SSHRC will be receiving one third more applications in 1991 than today. This would translate into approximately 3,500 new applications in 1991. More information on these projections may be found in Appendix E.

As Table 12 indicates, applications to the doctoral fellowships program were on a slow, steady decline from 1979-80 to 1982-83. It was judged reasonable to hold the number of awards constant in these circumstances. Then, with the large increases in 1983-84 and following, the program was thrown out of balance.

A ten-year study of the relationship between new awards and renewals indicates that the program is in equilibrium when it achieves a ratio of 52 new awards to 48 renewals. Since 1981-82 the results of the competitions are nowhere near this ratio, and the program faces a series of violent upward and downward swings in the award ratio for new applicants. Early evidence of this appears in Table 12. Unless something is done to stabilize the success ratio, new applicants will rapidly become discouraged by award rates in the 16 per cent range, rather than the more normal 27 per cent.

**Figure 3**
**Research Training Expenditures in millions of 1971 dollars and Number of Social Sciences and Humanities Graduate Students 1972 to 1983**

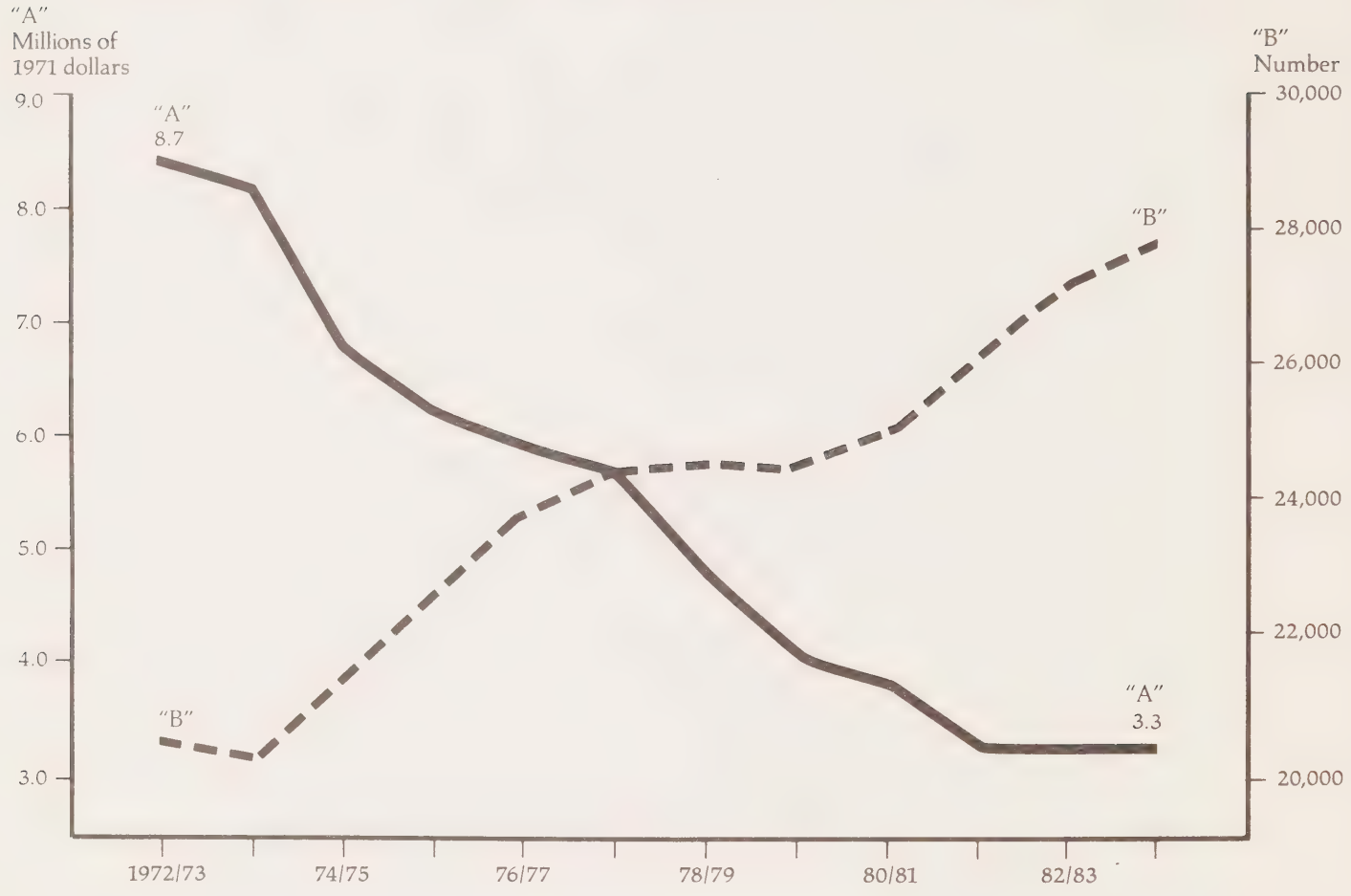


TABLE 12

Doctoral Fellowships

| Year | New Requests | Awards | Award Ratio % | Renewals | Total | Program Budget (thousands) |
|---|---|---|---|---|---|---|
| 1979-80 | 2,072 | 561 | 27.1 | 637 | 1,198 | 8,344 |
| 1980-81 | 2,073 | 547 | 26.4 | 630 | 1,177 | 8,423 |
| 1981-82 | 1,929 | 546 | 28.3 | 630 | 1,176 | 9,041 |
| 1982-83 | 1,971 | 533 | 27.0 | 568 | 1,101 | 9,886 |
| 1983-84 | 2,222 | 425 | 19.1 | 579 | 1,004 | 11,061 |
| 1984-85 | 2,493 | 364 | 14.6 | 651 | 1,015 | 11,130 |
| 1985-86 | 2,561 | 474 | 18.5 | 567 | 1,041 | 11,744 |

The SSHRC has evaluated the Doctoral Fellowship program, surveying over 1,000 of its fellows; the results of the evaluation were published by the Council in 1983. The survey requested information on the success of our fellowship holders in completing their doctoral studies and in obtaining employment related to their field of study, whether or not they had completed all requirements for their degree. The results of the survey were most satisfying: three-quarters of those who responded to the questionnaire had completed all requirements for their degrees, and most of the rest still had the intention of completing the requirements. This is considerably above the average 50 per cent of students who complete a degree at the doctoral level.

The findings of the survey on the employment situation of past fellowship holders were somewhat less encouraging, although well over 85 per cent of those who had completed their degrees had found employment suitable to their qualifications. The unemployment rate for those who had not completed their degrees was significantly higher than for those with doctorates. Because of the cut-back in hiring at universities, a higher proportion of fellows found employment in the private or government sectors than had been reported in either the 1978 Statistics Canada survey or an earlier study by the Canada Council. On the whole, this evaluation made clear that upon graduation, the vast majority of those holding doctorates supported by the Council find satisfying work related to research in their fields of study; only 4.5 per cent were unemployed and seeking work at the time of the survey.

Encouraged by these results, the SSHRC sees the need to expand its fellowship support to achieve a success rate for new applicants in the 25 per cent range, and to provide for an appropriate number of renewal fellowships. Further discussion on the expansion envisaged will be found in the Human Resources Development section of the second Five-Year Plan.

The Council also administers a Special Master of Arts Scholarship program with an award rate of 16 per cent. Despite this low rate, no increases in this program are proposed in view of current fiscal constraints.

### 1.4 Research Communication

The support of a dynamic communication network among such a geographically dispersed and diverse research community as ours was a major challenge for the SSHRC. Maintaining and strengthening this network is the sine qua non for a dynamic research community.

The Council's programs have undoubtedly helped the strong expansion that has occurred in the Canadian research communication network in the course of the last ten years. While only 50 research conferences across the country were funded in 1975, 157 were supported in 1984-85.

Among the gatherings which have taken place with SSHRC support, one might mention the following national conferences:

- Economic Adjustment and Public Policy in Canada
- L'héritage des francophones en Amérique du nord
- Women, the Law and the Canadian Economy
- Redéploiement industriel et aménagement de l'espace
- Mouvements cycliques et changements structurels des économies contemporaines
- Literary Criticism and the Computer
- Energy in the Eighties: The Next Steps
- Biomedical Ethics and Fetal Surgery
- Declining Productivity and Growth: Explanation and Outlook
- Religion and Culture in Canada

Support for research journals had increased from 73 in 1975 to 116 in 1984-85, when fiscal reasons obliged us to put a moratorium on new applications in this program. The pattern for scholarly associations follows the same trend: in 1975 some 40 associations were supported; by 1984-85 their number had grown to 75 associations. Council provides the publication subsidies for approximately 150 scholarly books per year.

In the last three years, the Council has not only responded to increased demands for support in research communication but has also taken major initiatives to improve and streamline program delivery. Programs have been deregulated and their operations

simplified for clients. In so doing, the Council has introduced the principle of matching grants for the support of scholarly associations and research journals, while maintaining its contribution approach to research conference assistance.

The impact of new technology has been carefully considered by the Council. Five regional demonstrations of new technology and research communication were funded in 1982 and 1983; this undoubtedly assisted the process of dissemination of new production technology among the components of the research communication network. The Council has also supported a limited number of small-scale experimental projects in the application of new communication technology to research communication. Finally, the Council has established a Task Force on Research Communication and Technology, consisting of representatives from the private sector, government, publishing, libraries, and the research community, to advise it on the impact of new technology on research communication and thus the appropriate disposition of its resources in the future.

To contribute fully to the world's body of knowledge and to benefit from it, the research community needs to be effectively linked at the national level and to be in contact with the international scientific community. Recognizing the importance of intellectual exchange among the scholars of the world and the need for Canada to have an international presence and prestige, the SSHRC operates programs of grants for Canadian participants in international conferences abroad, for the organization of cross-national seminars, and for inviting foreign guest lecturers to come to Canada. Under the auspices of the SSHRC, Canada also participates in formal bilateral exchanges with China, France, Hungary and Japan. The SSHRC's international programs grew from $200,000 in 1978-79 to $1.1 million in 1983-84.

## 1.5 Conclusion

Much has been achieved during the SSHRC's first Five-Year period, although the resources available to the Council in 1985 decreased by three per cent in real terms since its inception (see Table 3 and Figure 4). The accomplishments of the first Five-Year Plan are the foundation for an ongoing process which needs to be intensified if Canada is to meet the demands and challenges of the late 1980s and beyond. The SSHRC is well positioned and committed to build on the momentum gained. A new Five-Year Plan is a practical tool for the consolidation and application of what has been developed in the national research endeavour during the last five years. It is a step forward in enlarging the Canadian research contribution in the social sciences and humanities and in providing the country with talented researchers and teachers.

## D. The Second Five-Year Plan: 1985-86 to 1989-90

### 1. Defining a Role

#### 1.1 Introduction

The second Five-Year Plan recognizes that SSHRC is a federal government agency and one that must be sensitive to its research constituencies and the overall national interest. Functioning between two distinct interactive spheres, Council must find those areas where research needs and aspirations coincide with Canada's national priorities.

This second Five-Year Plan aims to be constructive for both the research communities and the national interest. Consequently, Council undertook extensive consultation to define the needs that Council could serve and which best fit within the national policy framework. The program initiatives resulting from these consultations have been carefully examined to confirm their relevance to the national priorities as set out in the Throne Speech of November 5, 1984 and in the November 8, 1984 Economic Statement by the Honourable Michael Wilson.

We cannot propose to meet all the needs of the research community, nor can we aspire to solve all those persistent human problems with which all governments must contend. Moreover, basic research, research communication, strategic research and the development of highly qualified personnel all interact and are interrelated. The Plan, modest both in terms of needs and challenges, thus strives to attain two major objectives. One objective is to fill two critical gaps and to respond to two pre-eminent, growing national needs: it seeks to provide the highly qualified personnel that the Canadian research enterprise and academic world will need in the next decade; and also, to provide a more realistic capacity for strategic work on enduring issues of national concern. The other thrust of the Five-Year Plan seeks modest reinforcement to those core activities on which all else in the research and training enterprise depend: basic research, and the infrastructure such as a communications network, research tools and specialized libraries.

To indicate briefly the correlation between our proposed program initiatives and overall national policies, we refer to those highlighted in the Throne Speech. Our proposals for the research communications network, small universities, targeted research in Canadian Studies and research infrastructure relate to "Reconciliation and National Unity". "Economic Renewal" will be aided by the Canada Research Fellowships, targeted research and research centres on national issues. A significant part of the basic research program contributes data and knowledge useful for economic renewal. Some of the proposed research centres, targeted programs and basic research would further social justice, law and public safety. The "Renewed Canadian Internationalism" would be

strengthened by the research institutes abroad, the research communications network, by some of the Canada Research Fellowships, by components of the research centres on national issues and by that part of basic research programs devoted to non-Canadian topics.

The SSHRC's second Five-Year Plan is designed to help the country attain the economic renewal, innovation, and productivity gains called for, within the framework of social development and justice.

## 1.2 The Need for Research

Because of the differences among societies, the political, cultural and economic orders, knowledge gained in one area is rarely directly transferable to any other society. Within Canada, the capacity to undertake advanced research in the human sciences has largely developed since the Second World War, with federal assistance and in recognition of a national need. Even into the 1960s most Canadians wishing first-rate graduate training sought it abroad, principally in the universities of the United States, Britain and France. With the massive expansion of Canadian universities in the 1960s to accommodate the baby boom, graduate programs meeting international standards became widely available in Canada. This development has given Canada a chance to become self-sufficient in the production of highly trained social sciences and humanities graduates.

## 1.3 Facts and Figures

The university community in the social sciences and humanities covers about 50 disciplines taught in some 65 degree-granting institutions across the country. Of the 35,000 full-time graduate students in universities, about 65 per cent are in the human sciences. About 55 per cent of the over 33,000 full-time faculty are in these disciplines, making the research clientele of the SSHRC in the universities alone about 41,000 individuals.

The SSHRC's mandate places it at the busy intersection of a number of important policy areas: national identity; economic and regional development; women; multiculturalism; cultural minorities; Native peoples; cultural policy; science policy; employment and training; and post-secondary education support.

The SSHRC provides grants and scholarships to individuals and groups working to improve our understanding of human beings, their societies, behaviour and cultural aspirations, with particular reference to the Canadian situation. Most of these researchers work within our universities, but a substantial number are in industry or in the non-profit sectors.

The Council's budget has scarcely changed, in real terms, over the period of the Five-Year Plan as shown in Figure 4. In spite of the lack of effective growth, the SSHRC has introduced new programs of targeted research and has re-allocated existing resources toward the support of discipline-based research. Even with this effort, SSHRC grants for research support of all types, both targeted and discipline-based, reach less than 10 per cent of the full-time faculty in the social sciences and humanities in Canadian universities annually. Support of the graduate student body is also low. A comparison of the Council's overall budget and the number of faculty is made in Figure 5.

## 1.4 Identified Gaps

The gaps in social sciences and humanities research are well documented. Starting with Needs of Scholars in the Humanities, sponsored by the Canada Council in the 1970s, the SSHRC has commissioned a series of reports on research requirements in a number of fields and professional disciplines. Some of these reports resulted in targeted programs for research on the management of Canadian enterprises, on the changing family structure and the upbringing of Canadian children, on the impact of science and technology on society, on women in the Canadian labour force and in the home, and on the effects of an aging population on Canada's prospects for the future. In all these areas research was lacking. Council's action promises to provide policy- and decision-makers with better information on which to base their judgments.

Other reports have led Council to plan new targeted research support programs. First on the list is education research to help Canadians train for the Information Age, to improve the links between the education our young people receive and their adaptation to productive careers. The second is a program to provide action research on the needs of Native communities in Canada to help them move toward self-sufficiency. A study in law shows further needs which must be met if this discipline is to contribute fully to Canada's storehouse of knowledge.

But these studies, together with a review of social sciences research, show that the targeted approach is not enough. There are major voids in areas of research activity. Canada has research expertise in a relatively narrow range of topics compared to the challenges it confronts. Despite the excellent work currently funded, not enough is being done, particularly on Canada and Canadian institutions. Many serious, or potentially serious, problems receive scant attention.

To improve productivity for economic renewal, Canada requires a far stronger effort in research, training and research communication in management studies and business administration. SSHRC has begun such work by developing the management theme in its strategic programs. Because administrative studies

**Figure 4**
**Social Sciences and Humanities Research Council of Canada**
**Pattern of Funding 1970-71 to 1985-86**
**Grants and Scholarships**

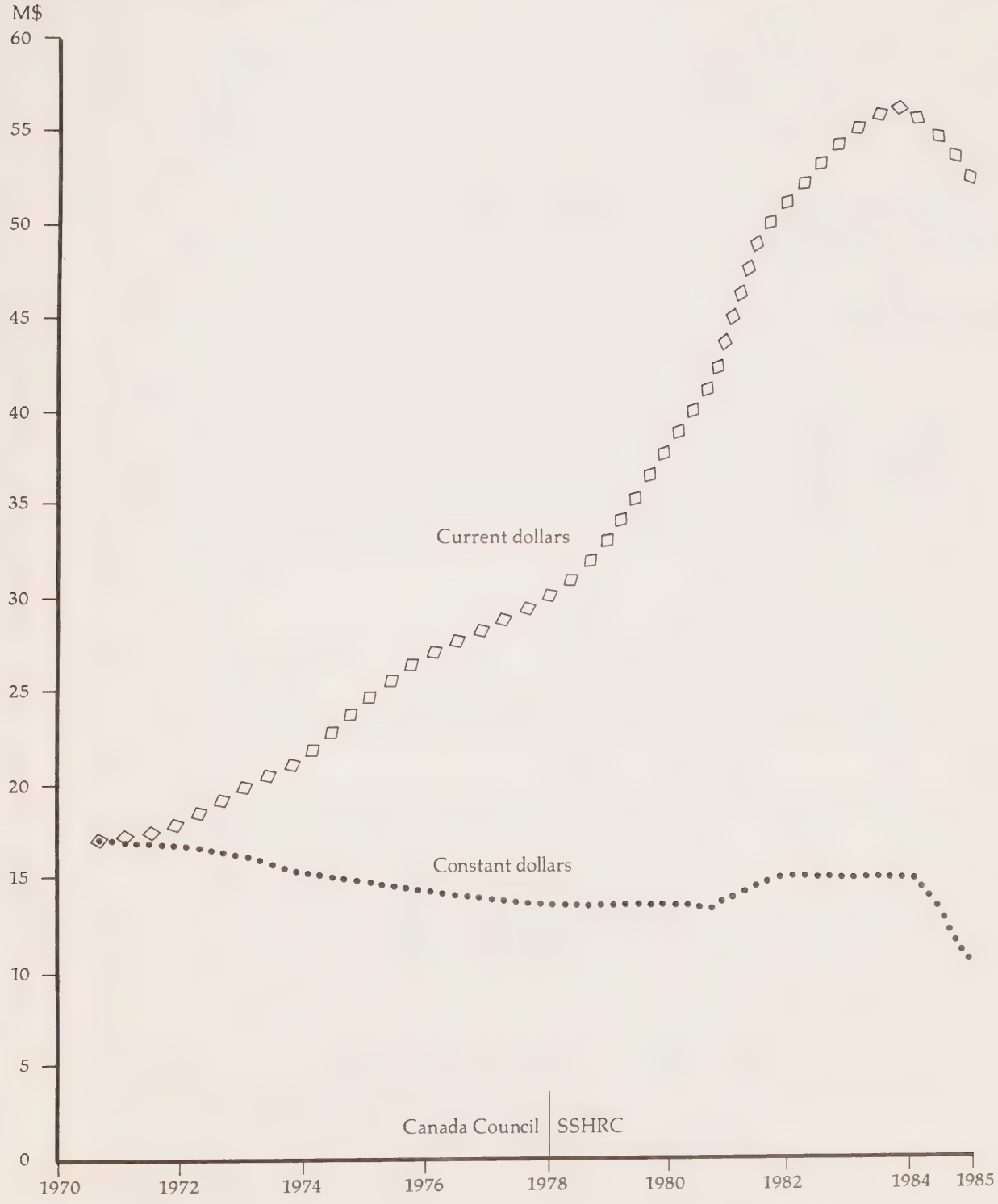
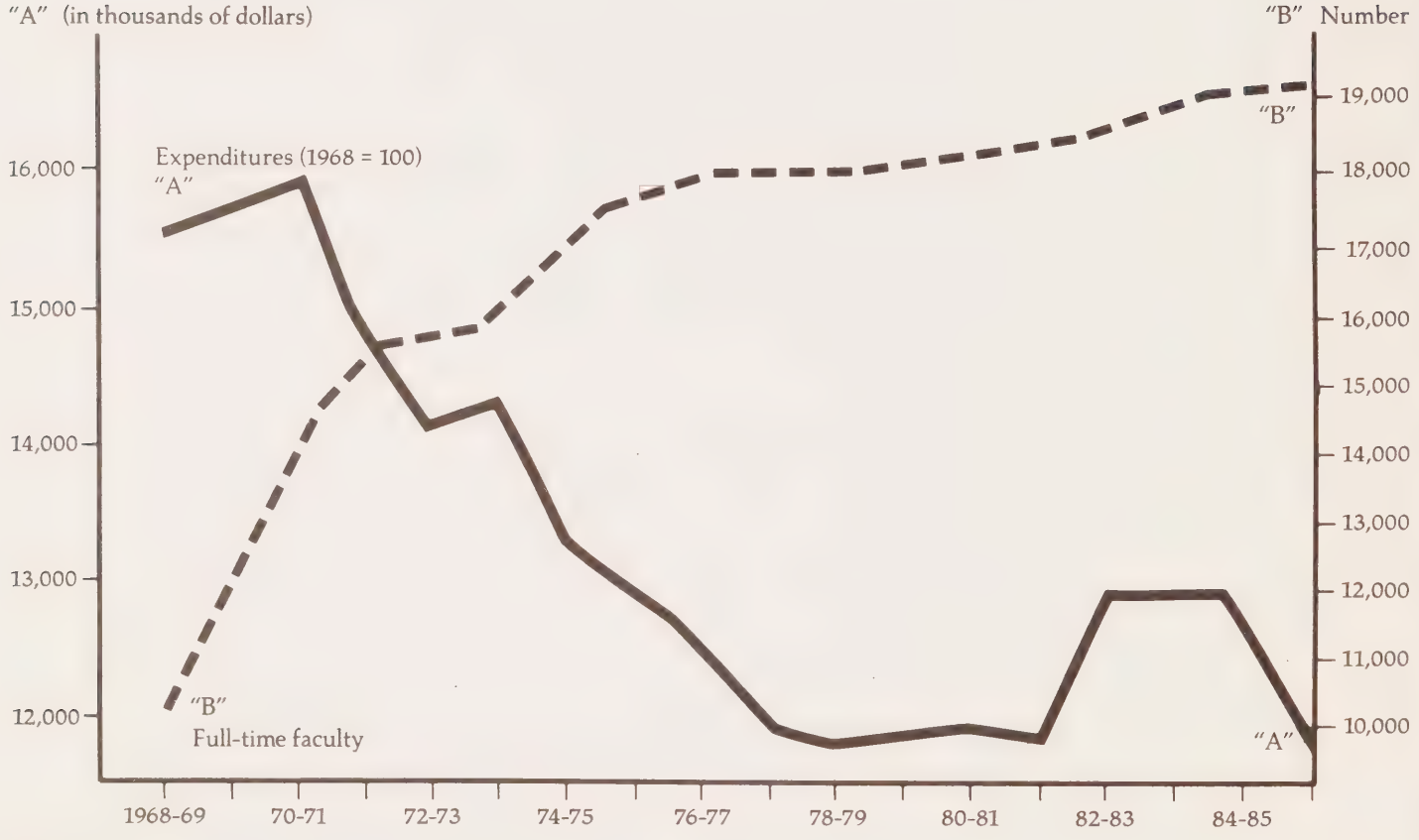


**Figure 5**
**Full-time Faculty in Social Sciences and Humanities, and SSHRC (Canada Council) Grants and Scholarships Expenditures 1968-69 to 1985-86, in constant dollars**



incorporate so much research from other social sciences, it is also a burgeoning area of university-corporate interface.

There is a growing need for social sciences and humanities research to address the complex problems facing Canada's policy-makers in the transition to a post-industrial society; however, the rising costs of carrying out such research have threatened to lessen its contribution to our understanding of ourselves and our culture. In the absence of large-scale contributions to human sciences research, the Canadian perspective which this research brings to our understanding of the country will be diminished. The Council proposes to build on current activities and to fill some gaps.

## 1.5. Human Resources Requirements

Recent analyses undertaken by the SSHRC and studies such as Some Questions of Balance, by Professor Thomas Symons and James Page, the Science Council report, University Research in Jeopardy, and the Bovey Commission's report in Ontario, all underline a growing problem with the deployment of Canada's most highly qualified human resources. One consequence of the impact of provincial government funding on universities has been a reduction in the number of full-time faculty positions available to recent doctoral graduates. The net result is a snowballing effect which threatens humanities and social sciences research in Canada altogether. The following sections briefly document the factors leading to the loss of a generation of researchers in Canada, the first effects of which are already evident.

Governments, assuming that lowered birth rates would lead to lower enrolments in the late 1970s and throughout the 1980s, cut back on direct commitments to universities. Hindsight shows that the forecasts were wrong: enrolments in 1984-85 are at an all-time high, both for universities and for the human sciences.

At the same time, university faculty in the human sciences, largely hired in the spurt of university growth of the 1960s and early 1970s, are clustered in a narrow age cohort. In 1982, nearly 60 per cent of full-time teaching staff in the human sciences at Canadian universities were aged between 35 and 49. This means that relatively few faculty will retire between now and 1990. The rate of retirement will then accelerate dramatically over the following 15 years. These trends are illustrated by Figures 6 through 10.

If current trends continue, as projected by Statistics Canada and the Ministry of State for Science and Technology (MOSST) and confirmed in the Symons-Page report, demand for researchers in the human sciences will begin to increase steadily from about 1991 (Figure 11). In some fields, such as management and administrative studies, the demand already far outstrips the supply. In disciplines such as geography, economics and

**Figure 6**
**Age Distribution (%) of Full-time Teaching Staff in Social Sciences and Humanities at Canadian Universities, 1979 to 1982**
**Total**

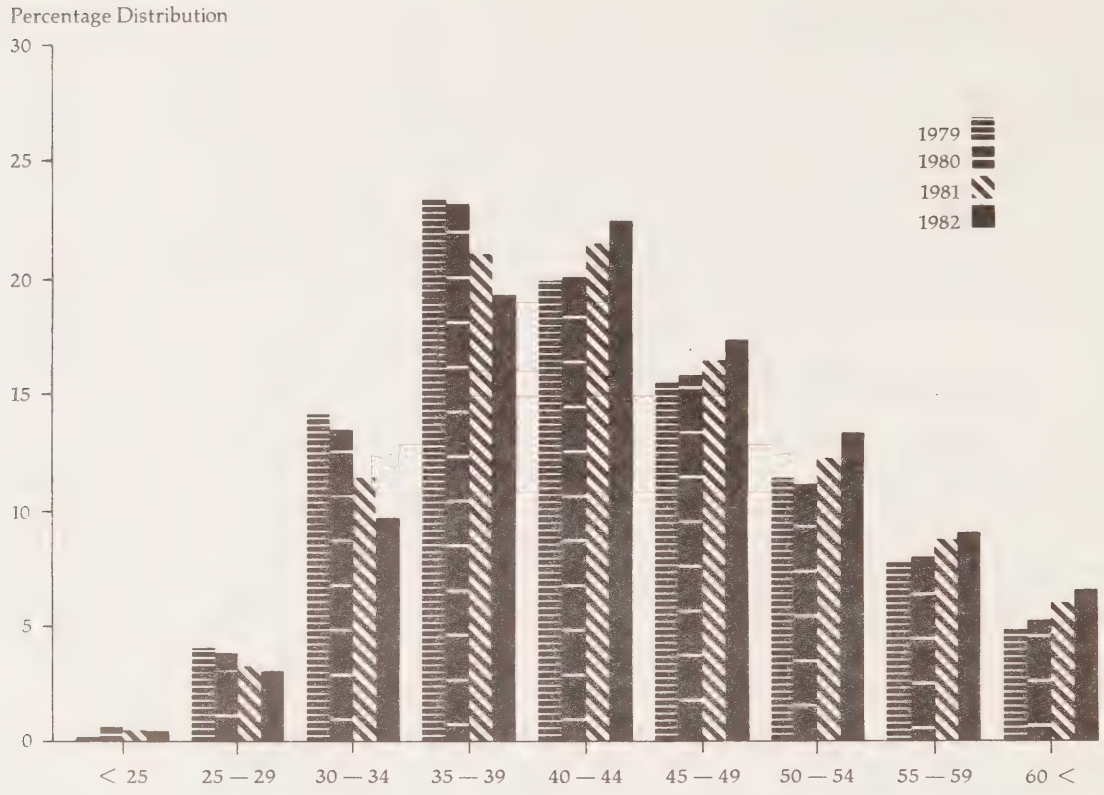



**Figure 7**
**Age Distribution (%) of Full-time Teaching Staff in Social Sciences and Humanities at Canadian Universities, 1979 to 1982**
**Humanities**

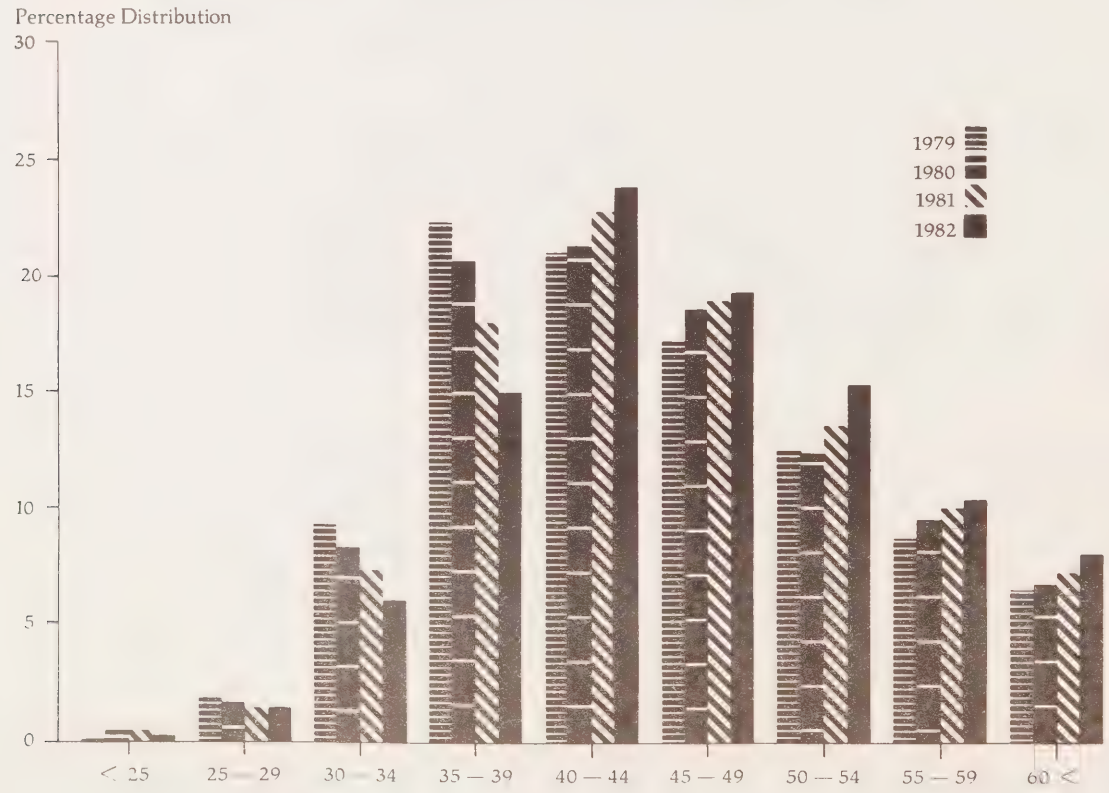


**Figure 8**
**Age Distribution (%) of Full-time Teaching Staff in Social Sciences and Humanities at Canadian Universities, 1979 to 1982**
**Social Sciences**

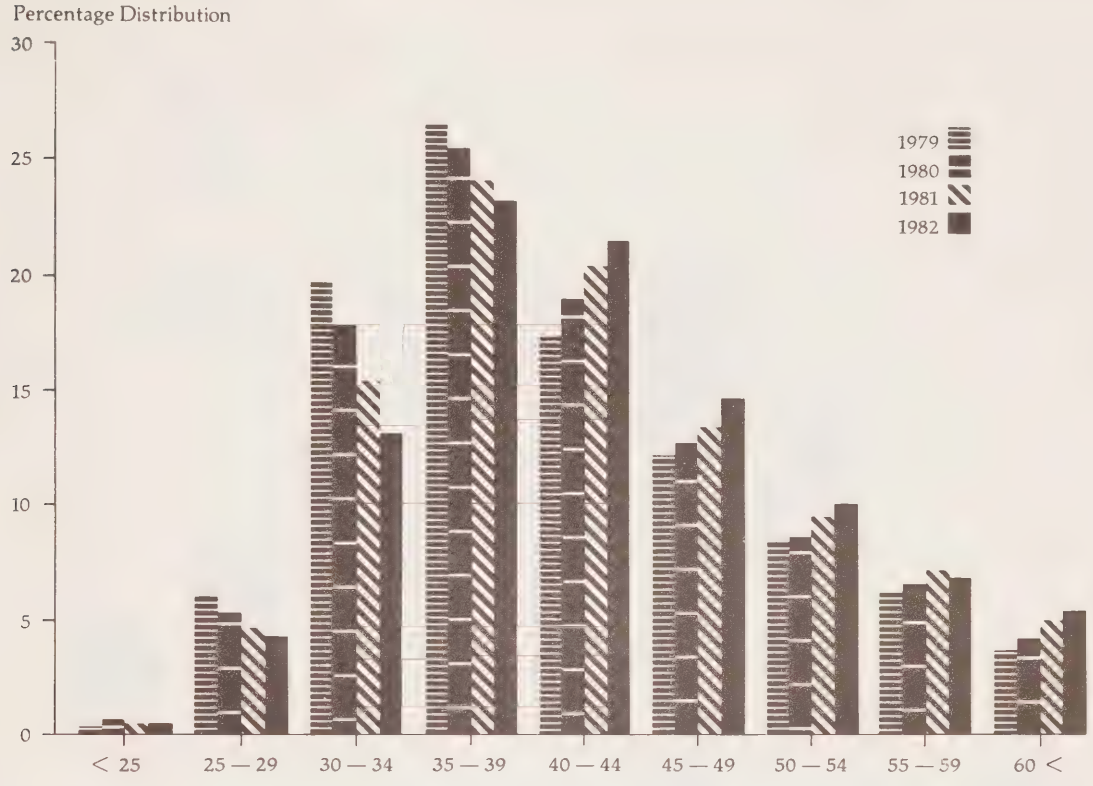



**Figure 9**
**Age Distribution (%) of Full-time Teaching Staff in Social Sciences and Humanities at Canadian Universities, 1979 to 1982**
**Education**

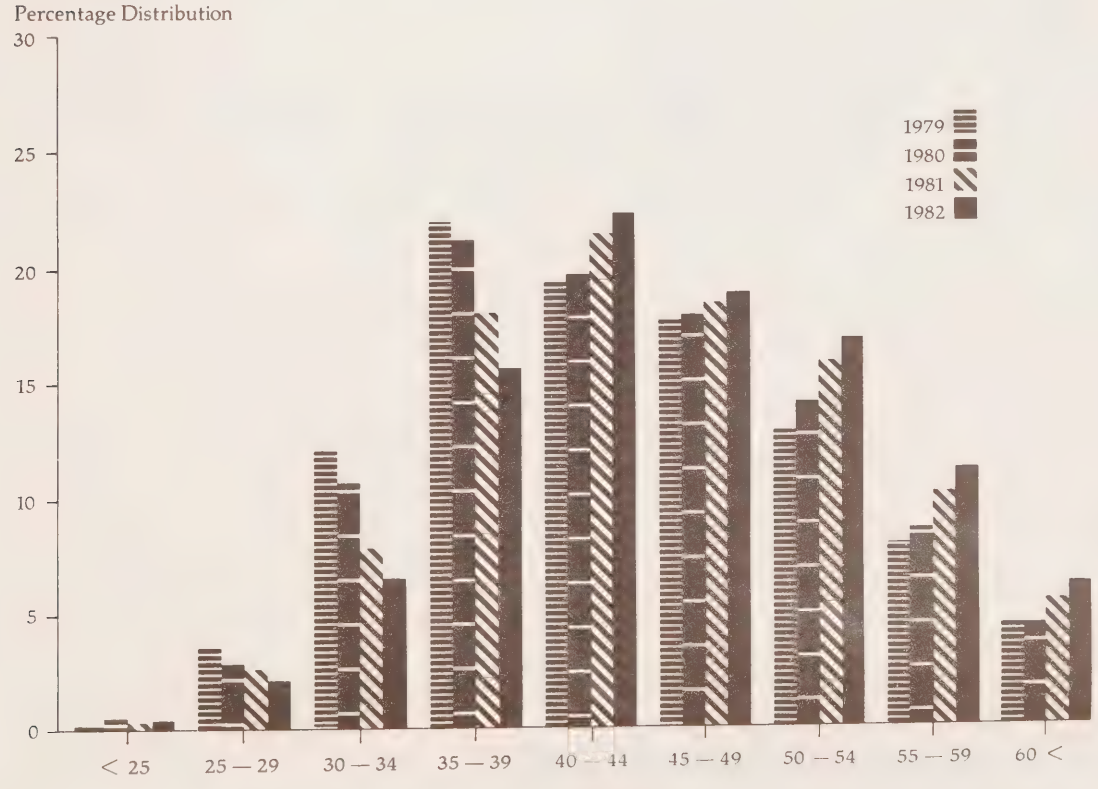


**Figure 10**
**Age Distribution (%) of Full-time Teaching Staff in Social Sciences and Humanities at Canadian Universities, 1979 to 1982**
**Fine Arts**

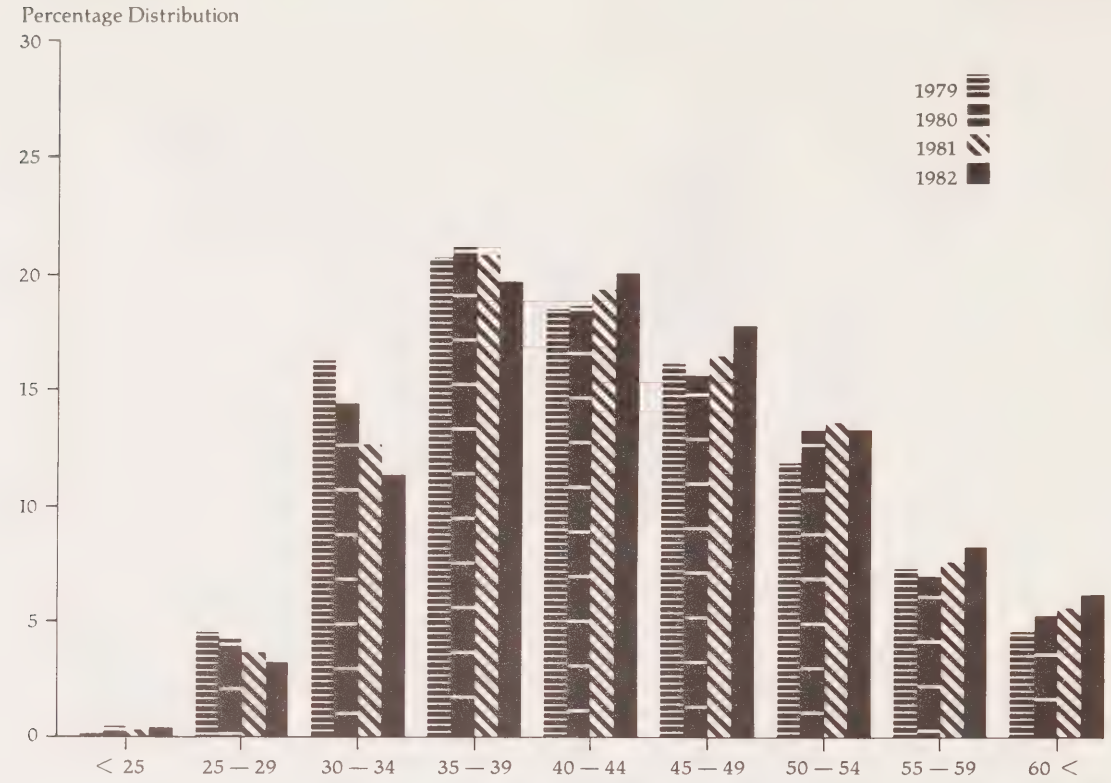
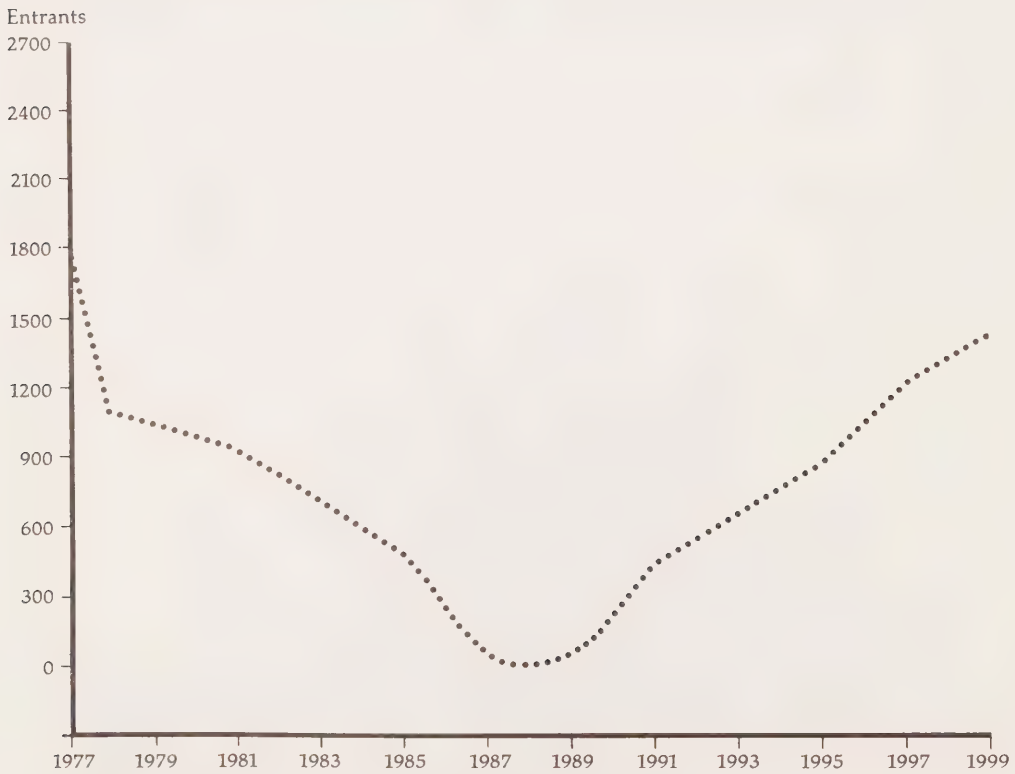
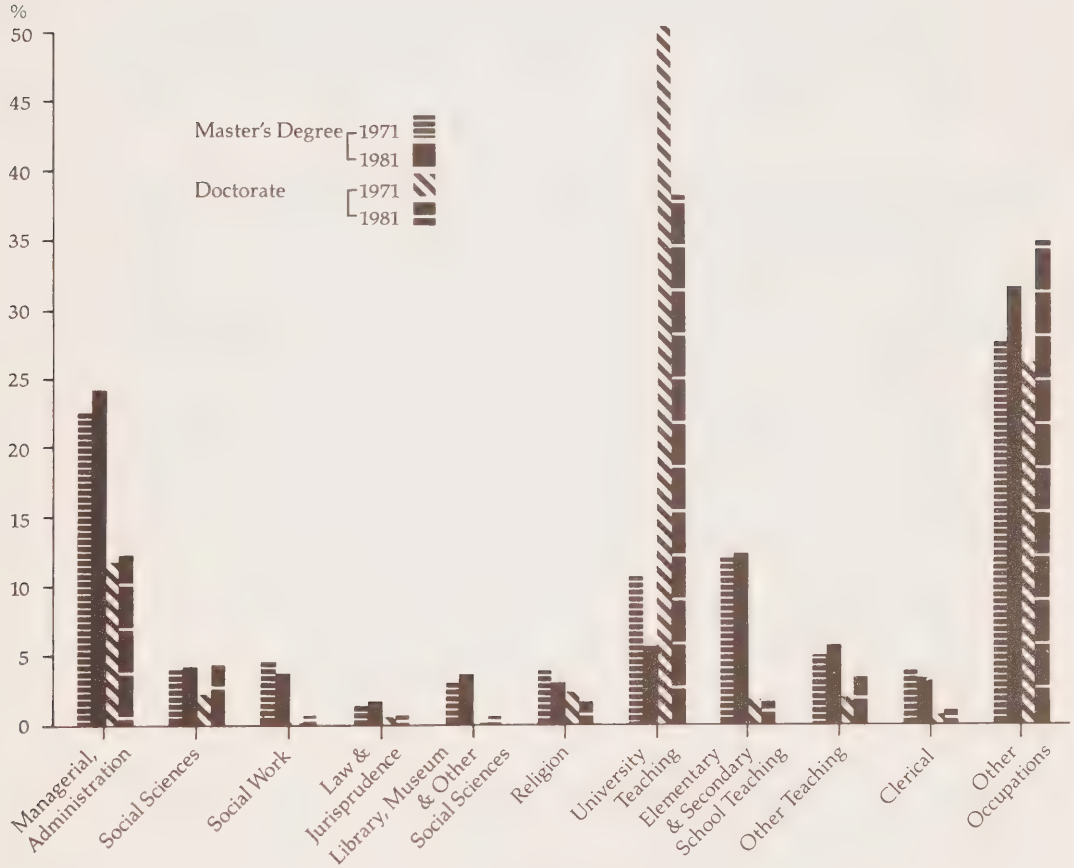



**Figure 11**
**New Entrants — Full-time Teaching Staff at Canadian Universities (Annual Number, 1977-1999)**




SOURCE: Estimates by Ministry of State for Science and Technology, *Working Paper, The Ageing of the Canadian Professoriate, 1977.*

**Figure 12**
**Highly Qualified Personnel, Percentage Distribution by Selected Occupations, 1971 and 1981**




SOURCES: 1971 Data — *Highly Qualified Manpower Survey*, 1973, Statistics Canada
1981 Data — *Census data*, Statistics Canada

psychology, supply and demand are now roughly balanced. It is only in those disciplines which rely heavily on the university sector for employment that there is significant current over-supply. From 1981 to 1990, the SSHRC estimates that of the university researchers in the human sciences who will retire or otherwise leave the system, about 2,400 will be replaced. The corresponding number for the first half of the next decade (1991-95) is 2,100, while almost 3,000 are likely to be replaced during the second half of that decade. If the trend continues, 3,600 will have to be replaced between the years 2001 and 2005. From 1991 to 2005, therefore, about 8,700 new university researchers will be needed even if there is no expansion in the university system. According to current projections, doctoral graduates in the human sciences available for work in universities will not match this demand. It is to meet a shortfall of 3,000 to 3,500 that the SSHRC proposes to take action now.

These two factors combined -- the current lack of hiring and the looming retirement bulge from 1990 to 2005 -- place the university research system in peril. As the Science Council of Canada points out, a lack of fresh blood jeopardizes the innovation and creativity of the community. At the same time, lack of employment opportunities now will drive well-qualified researchers from the field. There is already evidence that this is happening from figures provided through the Census and through a survey of graduate plans of PhD recipients carried out annually since 1981 by Statistics Canada. Whereas in 1971 just over half the holders of human sciences PhDs were employed in universities, this proportion had dropped to about 40 per cent by 1981, according to an analysis of Census data (Figure 12).

Thus, the lack of employment opportunities now drives researchers away, discouraging new entrants, especially women. The matter is urgent and directly related to national goals of social justice, economic renewal and international participation.

This holds particular irony for women who hold 46 per cent of our fellowships. Canada has finally produced a major cadre of highly qualified women researchers and scholars to redress the traditional gender imbalance in research and academe. We have a unique chance to make the academic and research systems more representative of the whole population. Just as this appears possible, the number of available positions has shrunk. The fate of the current generation of Canadian women researchers is also important to a government clearly concerned about the under-representation of women in public life and professional careers.

Of the 1,200 social sciences and humanities PhDs expected to graduate in 1990, about 350 will be available as additions to the stock of university teachers. Should the current trend continue, the proportion will be even lower. The Statistics Canada Survey of doctoral graduates shows that 37 per cent of human sciences

graduates report permanent employment in universities. A further 16 per cent take on contractually limited posts at universities and many of them eventually take permanent jobs elsewhere. As shown by Table 13, the employment rate for new PhDs in the social sciences and humanities is at or above the level for all disciplines. The number supported through postdoctoral awards or other grants is, however, much lower than the average in other fields.

The SSHRC draws three major conclusions from the findings of these reports.

- Although openings within university faculties for new researchers in the human sciences will decline during the 1980s, there will be a continued demand for them throughout the economy.

- The lack of openings in university departments will result in a decline in research productivity, as projected by the Science Council in its report University Research in Jeopardy, unless action is taken to ensure that greater numbers of highly qualified graduates are connected with research in universities.

- If nothing is done over the next decade to remedy the situation, Canada will be forced once again to import large numbers of trained and experienced researchers from abroad in the 1990s.

  Further information on the studies leading to these conclusions can be found in Appendix E.

TABLE 13

Postgraduation Plans of 1981, 1982 Doctoral Graduates in Social Sciences and Humanities

| Postgraduate Plans | | FIELDS OF STUDY | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Education | | | Humanities, Fine and Applied Arts | | | Social Sciences | | | Total: All Fields | | |
| | | 1981 | 1982 | 1983 | 1981 | 1982 | 1983 | 1981 | 1982 | 1983 | 1981 | 1982 | 1983 |
| TOTAL | n | 94 | 128 | 94 | 188 | 146 | 173 | 285 | 287 | 264 | 1,100 | 1,192 | 1,202 |
| | % | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number who have found employment | | | | | | | | | | | | | |
| (a) Postdoctoral fellowship, award or grant - | n | 2 | - | 4 | 15 | 10 | 9 | 30 | 34 | 27 | 252 | 278 | 313 |
| | % | 2.1 | - | 4.3 | 8.0 | 6.8 | 5.2 | 10.5 | 11.8 | 10.2 | 22.9 | 23.3 | 26.0 |
| (b) Other employment (1) | n | 80 | 109 | 69 | 134 | 90 | 113 | 226 | 218 | 197 | 725 | 736 | 696 |
| | % | 85.1 | 85.2 | 73.4 | 71.3 | 61.6 | 65.3 | 79.3 | 76.0 | 74.6 | 65.9 | 61.7 | 57.9 |
| Number who have not found employment | | | | | | | | | | | | | |
| (c) Currently seeking employment | n | 11 | 18 | 16 | 35 | 40 | 44 | 28 | 30 | 37 | 106 | 148 | 165 |
| | % | 11.7 | 14.1 | 17.0 | 18.6 | 27.4 | 25.4 | 9.8 | 10.5 | 14.0 | 9.6 | 12.4 | 13.7 |
| (d) Not currently seeking employment | n | 1 | 1 | 4 | 4 | 6 | 7 | 1 | 5 | 3 | 17 | 30 | 27 |
| | % | 1.1 | 0.8 | 4.3 | 2.1 | 4.1 | 4.0 | 0.4 | 1.7 | 1.1 | 1.5 | 2.5 | 2.2 |
| Total in labour force (2) | n | 93 | 127 | 90 | 184 | 140 | 166 | 284 | 282 | 261 | 1,083 | 1,162 | 1,175 |
| | % | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

(1) Includes individuals who were employed at time of graduation and were planning to continue in their job and those who had signed a contract to begin a job in the near future.
(2) Excluded those who were not employed and not seeking employment.

SOURCE: Statistics Canada

## 1.6 Research Centres

In an attempt to fill a critical gap in Canada's capacity for research and research communication on major national issues, the Council proposes to develop a network of centres. Such centres have proven effective in Canada and elsewhere in strengthening the links between disciplines, universities and regions, while they provide long-term focus on persistent problem areas. Not only do they constitute the necessary institutional infrastructure, but they also catalyze and sustain the research effort. Finally, these centres fit well with other needed programs described in the Plan.

## 1.7 Established Program Financing and Research Support

Since the introduction of the Established Program Financing system of transfer payments the burden of financing the post-secondary system has fallen increasingly but invisibly on the federal government. While the reasons are a matter of some controversy, it is clear that provincial contributions to universities have not kept pace with unexpected enrolment increases (see table 14).

The resulting erosion of university budgets has adversely effected Canadian research capacity, especially in the social sciences and humanities, where the sponsored research base is small.

TABLE 14

EPF/PSE Fiscal Transfers as a Percentage of Provincial Operating Grants to Universities and Colleges

| | 1977-78 | 1984-85 |
|---|---|---|
| Canada | 68.9% | 79.6% |
| Newfoundland | 83.3% | 106.9% |
| Prince Edward Island | 101.5% | 106.9% |
| Nova Scotia | 87.5% | 91.6% |
| New Brunswick | 98.1% | 101.8% |
| Quebec | 56.1% | 59.6% |
| Ontario | 73.7% | 88.7% |
| Manitoba | 80.3% | 102.9% |
| Saskatchewan | 81.6% | 90.3% |
| Alberta | 63.9% | 73.1% |
| British Columbia | 78.9% | 104.3% |

Sources: EPF/PSE entitlements from the Department of Finance. Provincial operating grants (adjusted for interprovincial transfers) estimated by the Department of the Secretary of State based on data from Statistics Canada, published series.

A number of studies, including those by Douglas Wright on Technological Development in Canada, the Canadian Association of University Business Officers, the Association of Universities and Colleges of Canada, and A.W. Johnson on the EPF agreement, document the way in which university infrastructure has suffered disproportionately through the loss of funding.

Evidence of this led the Bovey Commission in Ontario to recommend that the province allocate special funding to its universities to improve their library collections and research equipment and to establish a special capital fund for the construction and maintenance of buildings.

Only in a new climate of stable funding, with appropriate incentives to build excellence in instruction and research, can the university system in Canada continue to contribute to national development and economic progress.

The erosion of the universities' financial position has coincided with a period of stagnation in the funding of research in the social sciences and humanities. From 1971 to the present the SSHRC's ability to fund research and research training has decreased by some 20 per cent in real terms. Over the same period, the universities' ability to support the research of their faculty members has also declined, as pointed out in the Johnson report.

Acquisitions by university libraries, especially of periodicals containing information on the latest research in the social sciences and humanities, have been cut substantially. Universities have also been unable to replace research equipment essential to the undertaking of social sciences and humanities research in Canada. In these circumstances research does not cease; but the more expensive forms of field research, longitudinal studies and survey research are inevitably reduced.

Two reports have recently linked the issues of the Established Program Financing (EPF) agreement for post-secondary education and the funding of advanced research. To the authors of the Wright and Johnson reports the link comes from the high proportion of the costs of sponsored research that is paid by the universities. Both reports have recommended that, at the very least, the indirect costs of research should be borne by the granting councils.

At present, federal agencies pay only a portion of the costs of the research which they sponsor. Universities provide space, common services, support staff and faculty salaries out of their general operating budgets to which the federal government makes a substantial contribution in the form of EPF financing.

A change in policy giving research support agencies the resources to pay the full costs of research would have very different effects in the natural sciences on the one hand, and the social sciences and humanities on the other. Moreover, such a policy, which would require funding in excess of one billion dollars, implies either a huge injection of new money or a sizeable reallocation of transfer payments. In either case, it would inevitably be the larger and more research-oriented universities which would benefit. Universities which carry out little sponsored research could suffer significant cuts in their operating budgets.

SSHRC and other federal agencies which support research in the social sciences and humanities give grants to a small proportion of research endeavours at Canadian universities and defray a small part of the direct costs of research when grants are made. In 1984-85, SSHRC provided $34 million of the total $44 million federal contribution to university research. The actual cost of research in the social sciences and humanities in Canadian universities is almost 20 times this sum. The total operating budgets of Canadian universities in the 1984-85 fiscal year amount to some $6.2 billion. Of this, 45 per cent, or $2.8 billion, is allocated to activity in the social sciences and humanities, and 29 per cent of that, or $815 million, represents research costs in these disciplines, according to a study by the Canadian Association of University Business Officers (CAUBO).

The figures provided by CAUBO for research in the social sciences and humanities can be applied to the following table of relative values for each dollar of sponsored funding:

| | |
|---|---|
| Sponsored Research Funding (Direct Costs) | 1.00 |
| Funding from University Operating Budgets | |
| Infrastructure Costs (Direct Costs) | .39 |
| Overhead (Indirect Costs) | .76 |
| Research Component of Faculty Salaries (Including Associated Indirect Costs) | 2.46 |
| TOTAL | 3.61 |

Applied to current allocations for research support from federal sources these values provide the sums in the following table, which represent additional funds which would be required.

| Options | | Additional Funding (millions) 1984-1985 | |
|---|---|---|---|
| | | SSHRC | All Federal Agencies |
| Option I | (Status quo) | NIL | NIL |
| Option II | (Direct costs) | 13 | 17 |
| Option III | (II plus Indirect costs) | 39 | 51 |
| Option IV | (II & III plus Faculty salaries) | 123 | 159 |

Even if the government were to provide the full sum of $159 million in addition to the current $44 million for a total of $203 million, this sum would fall short of the total of $815 million by about $600 million. As shown in the CAUBO study, the proportion of faculty salaries to dollars of research support is high in the social sciences and humanities (2.46 : 1.00).

## 2. The Objectives of the 1985-1990 Five-Year Plan

The SSHRC's second Five-Year Plan has the following objectives:

- To stimulate greater research output in the social sciences and humanities, especially in areas of national importance.
- To ensure an adequate supply of highly trained and active researchers to meet Canada's present and future needs.
- To provide essential research infrastructure support to give universities the means to adapt to changing circumstances.
- To promote research communication in Canada and abroad that is rapid, inclusive and cost-effective.

The Council's programs for these activities will provide "add on" money to give additional support to vital research and research support services. The programs will provide visible federal support across all the regions of the country, for research activities in the national interest.

### 2.1 Maintenance of Discipline-based Research

The vigorous support of discipline-based research is the pivot on which all activities of the research endeavour rotate. Discipline-based research, oriented toward excellence, is fundamental to the training of highly qualified researchers, teachers and students just as it is essential to strategic

research. It is equally important for a dynamic and stimulating higher education system which will contribute to the advancement of knowledge and enable targeted research to rest on a firm intellectual foundation. Discipline-based research finds its relevance in the intellectual, cultural and education spheres as well as in the social and economic ones. About 45 per cent of such basic research funded by SSHRC is policy-relevant (See Appendix C).

The production of new knowledge in the social sciences and humanities and in emerging interdisciplinary domains remains the core function of the SSHRC, benefiting both Canada's international role and its quest for self-understanding, economic renewal and social justice. The competitive programs of peer-adjudicated grants to individual scholars or to research teams require an increase in funding over the next five years if the process of inquiry is not to be diminished. It is the goal of the Five-Year Plan to increase by 30 per cent the number of researchers supported directly or indirectly by SSHRC, in order to improve the training, teaching and knowledge base in the country.

The increases proposed under discipline-based research are of two sorts. The first is an increase of $1.2 million to the 1985-86 base budget, which represents the amount of supplementary funding used by this program for Canadian Studies research in 1984-85. Beyond this, the Council proposes an increase of $1 million in 1985-86, and similar increases in the following years.

## 2.2 Strengthening Strategic Research Thrusts

Targeted Research: If Canada is to meet the challenges of economic competitiveness, social equity and informed policy-making, research in carefully identified and nationally relevant areas must be intensified. The SSHRC has established a modest strategic research program, and its new Five-Year Plan identifies new areas for targeted research. The themes to be studied include education for the post-industrial society, for which preparatory work has already been completed. Other themes concern research on Native issues and law.

The proposal to strengthen the strategic research thrust of the Council comes in two parts. The first is an addition of $2.3 million to the 1985-86 base budget, which represents the amount of supplementary funding for these programs in 1984-85 which has not been renewed for 1985-86. The second part is an addition of $2 million to the existing programs to cover commitments and anticipated demand for 1985-86. Further funds would allow research on new themes as outlined above.

Aid to Small Universities: Because of their size or isolation, small universities have special problems in developing a vigorous research effort. Researchers are deprived of readily-available library resources and are obliged to travel frequently to remain in the research mainstream.

By increasing the research capacity and activity of small universities, the program has also created an incremental increase in the amount of funds required to sustain the effort. An increase in the Council's funding to allow it to go beyond the $25,000 ceiling per institution, would go a long way toward achieving the fundamental objectives of the program (i.e. the development of increased research capacity and activity within small universities which will ultimately enable more of their faculty to participate in the regular research support programs of the Council). The value of the results achieved has exceeded the relatively modest investment provided. A trebling of the grants can be expected to lead to a much greater return.

For all these reasons they must receive special funding to improve their faculty's contribution to the national research effort and the solution of regional problems. The Plan provides for an increase of $1 million in 1985-88, and $1.5 million for 1988-90.

Support to Specialized Collections: Research libraries are the laboratories of our disciplines and their support must be regarded as a fundamental research investment. As such, research libraries relate directly to all the initiatives referred to earlier. Because of shrinking university library budgets, research collections cannot be maintained or enriched unless the SSHRC operates a substantial program of assistance. The modest program already in existence needs to be reinforced if our research libraries are to be maintained at a level adequate to serve the national research effort. The Plan provides for an increase from $800,000 to $1.3 million in 1985-86, with increases up to $3.3 million by 1989-90.

Canadian Studies Research Tools: This program, closely linked with the program to improve specialized collections, is a vital component for strengthening the research infrastructure in this country. It must be expanded if access to research materials and collections is to be enlarged and made more efficient.

Canadian Institute for Historical Microreproductions: As a consequence of the use of acids in paper manufacture over the last 150 years, a substantial part of Canada's printed heritage and documentary resources are in danger of being lost to future generations. Furthermore, Canadiana collections are scattered from coast to coast and abroad, and thousands of early Canadian publications are not readily available to researchers. The decay problem is accumulative and now is reaching crisis proportions. Aware of the worsening problem and of the importance of this irreplaceable data base for many scholarly disciplines and the national heritage, this Institute has earned strong support from the community. Therefore, the Five-Year Plan proposes that the Canadian Institute for Historical Microreproductions receive annual grants from 1985-86 to 1990-91 to continue to film and to distribute, on microfiche, pre-1901 Canadian books, pamphlets and periodicals. An amount of $0.5 million is requested from 1985-86 to 1989-90.

## 2.3 A New Generation of Researchers

On November 8, 1984, the Honourable Michael Wilson stated that brainpower is the pre-eminent national resource. Education cost is an "investment" and "a primary resource". Teaching and research become steadily more crucial to Canada's economic success, social harmony and national identity. It is now widely recognized that we are in danger of losing a generation of young trained researchers who are essential to our future.

Because of the retirement bulge Canada will need additional young humanists and social scientists in the 1990s to avoid an Americanization of our advanced education system, just when the United States will seek our best people for their own system.

We propose a three-part strategy building on existing resources and adding a new program to meet this urgent national need. The present programs provide PhD and postdoctoral fellowships. They train outstanding young Canadians in a fiercely competitive system. Within this highly qualified training effort increased PhD and postdoctoral programs are unquestionably warranted.

As outlined in the section on achievements of the first Five-Year Plan, the decline in award rates for new applicants for doctoral fellowships from 28 per cent in 1982 to 18 per cent in 1985-86 is clearly unacceptable. First of all the number of doctoral fellows must be increased.

Providing fellowships to less than one third of applicants to a postdoctoral program, when selecting only among those who have already earned their degrees, is also a waste of Canadian research talent. The numbers of awards granted by this program would be increased, as the second part of the Council's strategy.

The strengthening of these two programs constitutes the foundation for the third part of the strategy proposed by the Council, the launching of a new program: the Canada Research Fellowships. The objectives of this program are to stimulate research activity in a period of low employment opportunities at universities and to build the Canadian capacity for social sciences and humanities research against the growing demand for researchers in the 1990s. This will help bridge the gap which will appear at the beginning of the next decade.

The Canada Research Fellowships (CRF) will provide $35,000 per capita per annum (including a research allowance) and will be tenable in Canada for five years. The holders of these fellowships will be chosen by competition, in close cooperation with universities and research enterprises in the private and voluntary sectors. This program will thus provide a timely opportunity to improve the university-government-private sector interaction. The CRFs cannot meet their objectives, on the

other hand, unless they are supported by a stronger PhD fellowships program creating the pool of talent from which CRFs can be drawn. To that end, the balance between the two programs will be carefully monitored.

This initiative parallels the existing NSERC program of University Research Fellows.

Table 15 provides information on the intended growth pattern for the Human Resources Development programs of the Council, within this three-part strategy.

TABLE 15

| Numbers of: | 1985-86 Proposed | 1986-87 Proposed | 1987-88 Proposed | 1988-89 Proposed | 1989-90 Proposed |
|---|---|---|---|---|---|
| Doctoral Fellows | 1,200 | 1,250 | 1,300 | 1,350 | 1,400 |
| Postdoctoral Fellows | 175 | 190 | 210 | 225 | 225 |
| Canada Research Fellows | - | 150 | 290 | 430 | 570 |
| TOTAL | 1,375 | 1,590 | 1,800 | 2,005 | 2,195 |

Agreeing with the national scholarly community, the Council sees the establishment of this program as a strategic priority. Here academic and national needs combine.

## 2.4 A Vital Communication Network

The national research communication network is needed to express the results of Canadian scholarly research in our own communications media, to strengthen interregional and interlanguage dialogue while using the new technologies of communication. With all its vital components, it must be reinforced after several years of stagnation in funding.

The production of new knowledge and the use of new technology alone will not be sufficient to resolve Canada's economic and social woes. To protect our cultural heritage against the massive influence of the United States, and to disseminate the results of our work, be it of a basic or applied nature, requires a sophisticated national communications network. It is the key to a

vibrant research community. Like the Trans-Canada Highway, a pioneering national airline or the CPR, this scholarly network serves to tie the regions together enhancing communication within our national community.

In the course of the last 20 years the Canadian research base in the social sciences and humanities has grown and developed despite the necessity to impose a moratorium on the support of new learned journals. Part of that growth and development has been reflected in the establishment and expansion of a national research communication network. The challenge is now to sustain the network that has been created and to strengthen its various elements so that the Canadian research capacity may be enhanced at a time of financial stringency and competing demands upon public funds. Research in the social sciences and humanities cannot continue in any worthwhile sense without a communication system to allow its products to be transmitted, considered and reintegrated into the research process.

The SSHRC must ensure that the architecture of research communication is sufficiently strong to face the pressures of rising costs, limited resources and severe competition from other national communication networks, particularly of the United States. While the Council must be able to respond to demands from increasing numbers of research journals, book publishers and scholarly associations, it must also encourage them to strengthen the basic infrastructure of their communication system. In so doing, it will enable a more effective and efficient use of private and public resources.

Development of better marketing strategies and tools for research journals and scholarly publishers, approaches to mutual self-help through seminars and information exchange concerning the process of research communication in Canada, improvement in management techniques, increased cooperation between research journals, publishers and scholarly associations toward more effective use of resources, must be fostered. The objective is to provide for the strengthening and development of the research communication infrastructure.

As part of this process of sustaining and strengthening the research communication network, the Council's second challenge is to integrate new communication technologies into traditional approaches to the communication of research. This integration is not simply the use of new production technologies, but also the use of new communications technologies not previously used in research communication. Such approaches as computer conferencing are already being introduced into the research community and being evaluated; conferences are being made possible between participants in separate locations through satellite technology; the dissemination of results and storage of conference proceedings are being done through easily accessible computer data bases. The communication environment itself is in a period of transition and

its final shape is as yet unknown. The Council must be concerned about the impact of these changes upon the distribution of its resources in research communications as it must be about their impact upon the research communication system itself. To meet these concerns the Council has established a Task Force on Research Communication and Technology.

Not only of concern are the long standing traditions and values of free access to knowledge and free inquiry, but also the efficiency of the research process, which largely depends upon easy and unimpeded access to knowledge and information. Resources will be needed for the technological upgrading of the research communication system, and to ensure that that system remains open and accessible to all.

The third challenge that faces the Council is to improve its links to other communications systems of the wider society in which it functions. If Canada is to achieve greater economic growth, to deal successfully with the social and economic problems of the 1980s and beyond, to make the transformations required by changing world socio-economic and political conditions, it needs to use the fruits of its own research efforts. A key element in economic and industrial growth is the pace at which research findings are taken into account in production. The transfer of research findings to policy- and decision-makers must be improved. Access to the research communication network must be made easier so that research results can be used by society in general. A budget increase of $1M in 1985-86 to $2.5M by 1989-90 is proposed.

## 2.5 Research Centres

After consultation with the community, SSHRC will implement stronger new strategic and infrastructure thrusts to create an environment for the pursuit of targeted research in the national interest.

The proposed research centres will concentrate on major, persistent Canadian problems of national concern. We cannot afford, in times of rapid change, to resort to expediency involving predictable problems. In countries with longer standing traditions of academic organization, the existence of research centres has proved invaluable for effective use of human and material resources. A research centre enables research teams working on interlocking programs to share the direct and indirect costs of research, and to utilize all resources to better advantage. It becomes a lively locus of learning and discovery where MA and PhD students, postdoctoral fellows, as well as the principal investigators themselves, can discuss and further their work in consultation with one another and have in common the infrastructure necessary for communicating research results efficiently to the community at large.

Over time, the Council has funded, through negotiated and major grants as well as grants to individuals and universities, projects which, due to their grouping of excellent researchers and to the richness of their documentary resources, have de facto become centres of excellence. The Strategic Grants program, during its first five years, has funded research centres on problems relating to the aging population.

The universities have developed research centres according to their own areas of strength; these could also be more strongly funded, on a competitive, peer-assessed basis, under this new program which could allow for cooperation on specific problems with sectors outside the university. The Formation de chercheurs et l'aide à la recherche (Québec) already successfully administers such a program. A network of research centres in the humanities and social sciences in Canada could build on this existing strength.

Thus the program would seek to increase cooperation in research in such areas as management studies, technological innovation, labour relations, resource development, and productivity. Not tied to a single discipline or a specific location and retaining a considerable degree of flexibility, it would strengthen the links among universities, regions and provinces, enrich the private sector and the local community, and focus research efforts on major national issues. This would provide the capacity to assist in the resolution of enduring problems.

The success of the Council's support for research centres in aging has encouraged it to consider extending this kind of assistance to other areas of national importance. The idea is to produce a synergistic centre which builds not only on the direct assistance provided to it, but also attracts research fellows, research library support and support of research proposals in general. The institutes and networks would not only be focal points for research and promoters of interdisciplinary and multidisciplinary research but would also, as existing centres have done,

- provide research training and allow for the upgrading of research skills in the priority areas;
- act as nodes in communication networks, both formal and informal;
- offer facilities for researchers from other institutions and other countries;
- provide a linking point for contacts between researchers and research users, particularly in the government and private sectors.

In reviewing possibilities for centres and networks, the following subject areas exemplify the range of concerns that might be considered:

- innovation, productivity and international competitiveness; Canadian studies and Canadian heritage; foreign trade and knowledge of the cultures and the languages of our trading partners; education in the labour market; women's studies; the disabled; resource development and social structure; communications technology; Native studies; Northern studies; Canada and the Third World; the arts and culture in Canada; managing the organizaton in Canada; the Pacific Rim; Russian studies; intellectual heritage; artificial intelligence; drugs in Canadian society; and bio-medical ethics.

This type of support could also be considered for major Canadian reference works and projects, such as the Dictionary of Canadian Biography, the Historical Atlas of Canada, and le Trésor de la langue française au Québec, all which have received a long-term funding commitment from the Council.

This program will require close consultation with the research community to determine topics, to ensure that it develops from existing strengths, and to design each centre in a way best suited to its mandate and nature. The Plan provides for a modest start with $1 million in 1985-86 to rise gradually to $12 million in 1989-90.

### 2.6 Canadian Research Institutes Abroad

Several valuable activities and programs supportive of, and associated closely with, social sciences and humanities research do not fit neatly within our existing programs or those of other granting councils, and often not within the parameters of any particular ministry. We cite, for example, the Canadian Mediterranean Institute and the Shastri-Canadian Institute. These are undertakings with wide support in the academic community and of substantial importance to Canada's international activities and prestige. While SSHRC has been able to provide some financial assistance to the research-related costs of the CMI, the Council's present budget does not allow for the continuation of such support.

The most important functions of such institutes are to provide access to research sites and materials, in line with bilateral agreements, and to assist researchers in obtaining the necessary official permission to carry out particular research projects. Access can be extremely difficult, sometimes impossible, even for an experienced individual researcher to obtain. In some cases, permits authorizing large-scale projects such as archaeological excavations, must by law be held by such an organization on behalf of the visiting research team.

These organizations also play an important role in the Canadian research communication network, providing a focus for conferences on Canadian themes organized abroad, and for public lectures by visiting Canadian researchers. They also play a part in the representation of Canada abroad as a normal point of inquiry on questions by foreign researchers concerning Canada.

Recognizing that such valuable agencies are at risk because they lack a "home" and a stable funding base, we propose that modest additional support in the amount of $0.5 million from 1985-87 and rising to $0.7 million by 1990, be allocated for the ongoing support of research-associated Canadian institutes abroad, to be disbursed by the Council in accordance with criteria appropriate to such undertakings, including peer evaluation.

## 3. Financial Considerations

### 3.1 Consolidation of Core Programs

Implementation of the Council's recommended Plan for 1985 to 1990 would seek protection of the discipline-based Research Grants program. In 1985-86, building into the A-base the $1.2 million supplementary funds which were not retained from 1984-85 would add approximately 75 grants. The reinforcement of the program by a further $1 million would add about 50 awards. Thus, in 1985-86 the program would be able to grant approximately 1,000 awards in comparison to the 850 in 1984-85. Increases of $1 million per year for 1986-87 and 1987-88 would add another 50 awards in each of those years. The Plan calls for a further 50 awards to be added in 1988-89 and 1989-90 together. In total, approximately 1,150 research grants would be made available to Canadian researchers in 1989-90. The program will still be funding only 6 per cent of full-time faculty annually.

Strategic programs would receive $2.3 million in 1985-86, to make up for supplementary funding lost from the previous year's budget. It would also be aided by an additional $2 million to provide more awards to research themes in the national interest. In 1986-87 an additional $3 million would be provided for the introduction of two new themes, Research on Education for a Changing Society and Community-based Research on Native Issues, and the further building of the targeted research programs. By 1988-89 special funding would be added for law research. In 1989-90 an additional $11 million (in 1985-86 dollars) would be available for research.

Within the Council's strategic thrust, two small programs would also receive increased funding. The Aid to Small Universities program would have its budget trebled, with the increase of $1 million in 1985-86. This would allow Council to raise the ceiling on its grants to small universities to $75,000 per annum. In 1988-89, an additional half million dollars would be added to the budget to allow for the extension of grants to other small

institutions which are currently excluded from the program. By 1989-90 the program would have an additional $1.5 million (in 1985-86 dollars). The Support to Specialized Collections would be increased by $0.5 million in 1985-86. An additional $1 million would be added in 1986-87 and $0.5 million in both 1987-88 and 1989-90. In addition, $0.5 million per annum would fund the Canadian Institute for Historical Microreproductions.

Two existing Human Resources Development programs would be enriched. The Doctoral Fellowships program would provide an additional 150 fellowships in 1985-86 and another 200 fellowships in 1986-87 at an extra cost of $1.6 million and $2.4 million respectively. Additions of 50 fellowships each year for the following three years would cost $600,000 extra annually. The program would require an additional $4.3 million (in 1985-86 dollars) by the end of the planning period. The Postdoctoral Fellowships program would provide an additional 20 fellowships in 1985-86 and 35 fellowships in 1986-87 at a cost of $400,000 and $800,000. A further 20 fellowships would be added in 1987-88 and 15 more in 1988-89. At that point the program will have obtained its approximate maximum level of fellowships. This addition will require an increase of $1.5 million (in 1985-86 dollars) in 1989-90.

The Council proposes to increase its funding to research communication by $1 million in 1985-86 and to add an additional $500,000 in each of 1987-88, 1988-89 and 1989-90. These increases will provide the resources necessary to meet the impact of increased costs in the short term and to provide stimulation for the use of new communications technologies over the longer term.

Consistent with a renewed Canadian internationalism, and in response to demands from its constituents, the Council proposes a modest program, beginning at $0.5 million per annum, to assist Canadian research institutes abroad. Such institutes are a useful part of the national research infrastructure and a standard element in the research/training life of many nations.

### 3.2 Initiatives

Two initiatives would enable the SSHRC to come forward with a significant response to challenges posed to the research and university communities in the last part of the 1980s. To meet Canada's need -- and that of our universities -- for highly qualified researchers, the Council proposes first to introduce a Canada Research Fellowships program, which in its first year would provide approximately 150 fellowships tenable in Canadian universities and the private and voluntary sectors. This program is scheduled to double in the following year and to increase by further $5 million increments to 1989-90, when it would be supporting about 570 research fellows. As the program develops, the Council would monitor it closely to assure a proper balance

with the Doctoral and Postdoctoral Fellowships programs and the national situation. It must be remembered that the fellows will be researchers and that their activities will not diminish, but increase the proportion of research resources invested.

The second initiative, Research Centres, would begin with a small budget in 1985-86, supporting concerted research on major persistent issues of national importance. From $1 million in 1985-86, the Centres program would grow to $12 million by 1989-90 (in 1985-86 dollars). The Centres would provide a unique focus for research, research training and research communication in areas deemed to be in the national interest.

### 3.3 Options

(a) The Recommended Plan: The recommended Plan provides for an orderly phasing-in of the two major initiatives, allows for modest growth in existing programs, especially targeted research, while recognizing the government's concern with fiscal restraint. It gives the SSHRC a sound base for attacking substantial problems facing Canada and for stimulating research and training.

Introduction of the two major initiatives would be gradual. The Canada Research Fellowships program would be introduced in 1986-87 and grow at a rate of $5 million a year to 1989-90. By that time about 570 fellows would be supported. On this scale, the program would supply a modest number of outstanding young Canadians to staff university vacancies while providing a healthy cadre of highly trained researchers to help maintain the integrity and excellence of our country's universities.

The Research Centres on National Issues would begin as a small program in 1985-86, with $1 million, to strengthen immediately a few existing centres. The rate of growth from 1986-87 to 1989-90 would average about $2.8 million annually. There would also be a small program for Canadian Research Institutes Abroad.

This information on the recommended option is summarized on the attached table.

(b) The Reduced Option: This is much less acceptable to the SSHRC and its constituency because several relatively small but important programs would not receive any relief from growing pressures. There would be a delay in increases in the programs of support to research communication and small universities, and no increase for research library collections.

The discipline-based and targeted research and Doctoral and Postdoctoral Fellowships programs would, however, be enriched at the same rate as in the recommended Plan.

Although research centres would not receive funding in 1985-86, they and the Canadian Research Fellowships would grow at a slower rate from 1986-87 to 1989-90 than in the recommended Plan. The later start would considerably limit the Council's ability to provide immediate help to existing centres which address major national concerns and the smaller growth would mean a lesser impact.

The table on the reduced option (p. 66) summarizes this information.

## 3.4 Operating Expenditures

Operating Performance 1978-79 to 1984-85

The summary history of SSHRC's operating estimates since its creation in 1978-79 to date, shows a net reduction of $850,000, in real terms, as follows:

Summary History: SSHRC Operating Estimates
1978-79 to 1985-86

| | ($000) | P/Y |
|---|---|---|
| Main Estimates 1978-79 | 4,234 | 110 |
| ADD: Allowances for "price increases" granted annually by the Treasury Board for the years 1979-80 to 1985-86 | 2,643 | |
| Additional funds granted for new program activities from 1982-83 to date (net) | 230 | |
| TOTAL | 7,107 | |
| Main Estimates 1985-86 | 6,257 | 107 |
| Budget Reductions (net) 1978-79 to date | 850 | 3 |

These savings were achieved despite the substantial increase in Council's granting activities, in terms of the number of programs it administered and the number of grant applications it received.

The latter increased by 48 per cent over the years 1978-79 to 1984-85, as follows:

| Number of Grant Applications | | | | |
|---|---|---|---|---|
| 1978-79 | 1980-81 | 1982-83 | 1983-84 | 1984-85 |
| 5,538 | 6,539 | 7,380 | 8,054 | 8,215 |
| | | + 48% | | |

The adjudication of applications continues to be based on the principle of competitive peer-review which is fundamental to Council's granting process and to the researchers themselves. Coping with increased program activities with practically the same person-year complement, while realizing a net reduction in its operating costs over these past years, has created great strain on Council staff.

Requirements 1985-1990

The increase in workload associated with the program initiatives proposed in this Plan will require six additional staff members in 1985-86, increasing to 12 by 1989-90. In addition, Council must develop and maintain better management information systems to improve and strengthen corporate policy development, planning and program evaluation functions, as well as records management and distribution operations. This requires four additional persons from 1985-86.

The Council expects the number of applications for grants (for existing and new programs) to increase by some 1,000 in the first year, up to 2,500 in the last three years to 1989-90. An additional $120,000 is required in 1985-86 to cover adjudication and other associated operating costs, increasing to $270,000 in 1986-87 and $360,000 from 1987-88 to 1989-90. To summarize, the additional operating costs proposed in the Plan are made up as follows:

| | (IN THOUSANDS OF 1985-86 DOLLARS) | | | | |
|---|---|---|---|---|---|
| | 1985-86 | 1986-87 | 1987-88 | 1988-89 | 1989-90 |
| Salaries, benefits and other personnel costs | 250 | 500 | 675 | 650 | 650 |
| Automation | 200 | 200 | - | - | - |
| Adjudication and other operating costs | 120 | 270 | 360 | 360 | 360 |
| | 570 | 970 | 1,035 | 1,010 | 1,010 |
| (Rounded to millions) | 0.6 | 1.0 | 1.0 | 1.0 | 1.0 |
| Person-years | (10) | (13) | (16) | (16) | (16) |

Comprehensive internal audits and program evaluation studies will be carried out over the planning period, as called for by Council's long-term Audit and Evaluation plans, as a means of ensuring the efficiency and effectiveness of programs and their operations.

## 4. Conclusion

The investment already made in Canada's research system has brought research in the social sciences and humanities to the takeoff point. The Council's studies and the experience gained through its programs indicate that in several fields there is a coalescing of research that is at the point of giving rise to important advances. The SSHRC's program strategy is based on the need to capitalize on the work accomplished and provide an impetus to these advances.

There is a growing need for social sciences and humanities researchers to address the complex problems facing Canada's policy-makers in the transition to a post-industrial society, but the rising costs of carrying out such research have threatened to diminish its contribution to our understanding of ourselves and our culture. In the absence of large-scale contributions, the Canadian perspective which our researchers bring to our understanding of the country will be diminished. The Council proposes to build on current research and training activities and fill gaps where investment has been lacking.

For research to flourish, it must be conducted in an environment free from a spirit of destructive competition where grantsmanship has been substituted for quality, and where self-imposed short-term objectives replace long-term contribution to national goals.

Support by the government of the recommended Plan would confirm its understanding of the role of research and would enable the research community to provide a reasonable, albeit modest, contribution to Canadian society. The SSHRC needs, now more than ever, not only predictable but also significant budgetary increases.

SOCIAL SCIENCES AND HUMANITIES RESEARCH COUNCIL OF CANADA

FIVE-YEAR PLAN
1985-86 to 1989-90
(IN MILLIONS OF 1985-86 DOLLARS)

Recommended Plan

| | NEW INITIATIVES PROPOSED FUNDING OVER 1985-86 BASE | | | | |
|---|---|---|---|---|---|
| | 1985-86 | 1986-87 | 1987-88* | 1988-89 | 1989-90 |
| Discipline-based Research | 2.2 | 3.2 | 4.2 | 4.7 | 5.2 |
| Strategic Programs: | | | | | |
| Targeted Research | 4.3 | 7.3 | 8.3 | 9.3 | 11.0 |
| Aid to Small Universities | 1.0 | 1.0 | 1.0 | 1.5 | 1.5 |
| Specialized Collections | 0.5 | 1.5 | 2.0 | 2.0 | 2.5 |
| Canadian Studies Research Tools | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Sub-total | 6.3 | 10.3 | 11.8 | 13.3 | 15.5 |
| Human Resources Development: | | | | | |
| Canadian Research Fellowships | - | 5.3 | 10.2 | 15.1 | 20.0 |
| Doctoral Fellowships | 1.6 | 2.4 | 3.0 | 3.6 | 4.3 |
| Postdoctoral Fellowships | 0.4 | 0.8 | 1.2 | 1.5 | 1.5 |
| Sub-total | 2.0 | 8.5 | 14.4 | 20.2 | 25.8 |
| Research Communication | 1.0 | 1.0 | 1.5 | 2.0 | 2.5 |
| Research Centres | 1.0 | 5.0 | 8.0 | 10.0 | 12.0 |
| Canadian Research Institutes Abroad | 0.5 | 0.5 | 0.6 | 0.6 | 0.7 |
| Program total | 13.0 | 28.5 | 40.5 | 50.8 | 61.7 |
| Operating Expenditures | 0.6 | 1.0 | 1.0 | 1.0 | 1.0 |
| TOTAL (in millions) | 13.6 | 29.5 | 41.5 | 51.8 | 62.7 |
| TOTAL BUDGET | 74.5 | 90.4 | 100.4 | 110.7 | 121.6 |
| IN CURRENT MILLIONS** TOTAL NEW FUNDING | 13.6 | 30.7 | 44.8 | 58.1 | 73.2 |
| TOTAL BUDGET | 74.5 | 94.0 | 108.5 | 124.3 | 142.0 |

* $2.0 million funding ends in 1986-87
** Assuming 4% annual inflation throughout 1986-90.

SOCIAL SCIENCES AND HUMANITIES RESEARCH COUNCIL OF CANADA

FIVE-YEAR PLAN
1985-86 to 1989-90
(IN MILLIONS OF 1985-86 DOLLARS)

Reduced Option

| | NEW INITIATIVES PROPOSED FUNDING OVER 1985-86 BASE | | | | |
|---|---|---|---|---|---|
| | 1985-86 | 1986-87 | 1987-88* | 1988-89 | 1989-90 |
| Discipline-based Research | 2.2 | 3.2 | 4.2 | 4.7 | 5.2 |
| Strategic Programs: | | | | | |
| Targeted Research | 4.3 | 7.3 | 8.3 | 9.3 | 11.0 |
| Aid to Small Universities | - | 1.0 | 1.0 | 1.5 | 1.5 |
| Canadian Studies Research Tools | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| Sub-total | 4.7 | 8.7 | 9.7 | 11.2 | 12.9 |
| Human Resources Development: | | | | | |
| Canadian Research Fellowships | - | 4.8 | 9.7 | 13.6 | 18.0 |
| Doctoral Fellowships | 1.6 | 2.4 | 3.0 | 3.6 | 4.3 |
| Postdoctoral Fellowships | 0.4 | 0.8 | 1.2 | 1.5 | 1.5 |
| Sub-total | 2.0 | 8.0 | 13.9 | 18.7 | 23.8 |
| Research Communication | - | 1.0 | 1.5 | 2.0 | 2.5 |
| Research Centres | - | 3.5 | 6.0 | 8.0 | 10.0 |
| Canadian Research Institutes Abroad | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| Program total | 9.3 | 24.8 | 35.7 | 45.0 | 54.8 |
| Operating Expenditures | 0.6 | 1.0 | 1.0 | 1.0 | 1.0 |
| TOTAL (in millions) | 9.9 | 25.8 | 36.7 | 46.0 | 55.8 |
| TOTAL BUDGET | 70.8 | 86.7 | 95.6 | 104.9 | 114.7 |
| IN CURRENT MILLIONS** TOTAL NEW FUNDING | 9.9 | 26.8 | 39.6 | 51.7 | 65.2 |
| TOTAL BUDGET | 70.8 | 90.2 | 103.4 | 117.8 | 134.0 |

* $2.0 million funding ends in 1986-87
** Assuming 4% annual inflation throughout 1986-90.

APPENDICES A - F

TABLE A-1

APPENDIX A

SOCIAL SCIENCES AND HUMANITIES RESEARCH COUNCIL OF CANADA

FIVE-YEAR PLAN: 1985-86 to 1989-90

(IN MILLIONS OF 1985-86 DOLLARS)

Recommended Plan

| Programs | Estimates | Proposed Level of Funding | | | | |
|---|---|---|---|---|---|---|
| | 1985-86 | 1985-86 | 1986-87 | 1987-88 | 1988-89 | 1989-90 |
| Discipline-based Research | 26.7 | 28.9 | 29.9 | 30.1 | 30.6 | 31.1 |
| Strategic Programs | 5.3 | 11.6 | 15.6 | 16.0 | 17.5 | 19.7 |
| Human Resources Development | 16.2 | 18.2 | 24.7 | 30.6 | 36.4 | 42.0 |
| Research Communication | 6.4 | 7.4 | 7.4 | 7.9 | 8.4 | 8.9 |
| Research Centres | - | 1.0 | 5.0 | 8.0 | 10.0 | 12.0 |
| Canadian Research Institutes Abroad | - | 0.5 | 0.5 | 0.6 | 0.6 | 0.7 |
| Program Total | 54.6 | 67.6 | 83.1 | 93.2 | 103.5 | 114.4 |
| Operating Expenditures | 6.3 | 6.9 | 7.3 | 7.2 | 7.2 | 7.2 |
| TOTAL | 60.9 | 74.5 | 90.4 | 100.4 | 110.7 | 121.6 |

85.05.22

TABLE A-2

SOCIAL SCIENCES AND HUMANITIES RESEARCH COUNCIL OF CANADA

FIVE-YEAR PLAN: 1985-86 to 1989-90

(IN MILLIONS OF CURRENT DOLLARS*)

Recommended Plan

| Programs | Estimates | Proposed Level of Funding | | | | |
|---|---|---|---|---|---|---|
| | 1985-86 | 1985-86 | 1986-87 | 1987-88 | 1988-89 | 1989-90 |
| Discipline-based Research | 26.7 | 28.9 | 31.1 | 32.5 | 34.4 | 36.3 |
| Strategic Programs | 5.3 | 11.6 | 16.2 | 17.3 | 19.6 | 23.0 |
| Human Resources Development | 16.2 | 18.2 | 25.7 | 33.1 | 40.9 | 49.1 |
| Research Communication | 6.4 | 7.4 | 7.7 | 8.5 | 9.4 | 10.4 |
| Research Centres | - | 1.0 | 5.2 | 8.7 | 11.2 | 14.0 |
| Canadian Research Institutes Abroad | - | 0.5 | 0.5 | 0.7 | 0.7 | 0.8 |
| Program Total | 54.6 | 67.6 | 86.4 | 100.7 | 116.2 | 133.6 |
| Operating Expenditures | 6.3 | 6.9 | 7.6 | 7.8 | 8.1 | 8.4 |
| TOTAL | 60.9 | 74.5 | 94.0 | 108.5 | 124.3 | 142.0 |

* Assuming 4% annual inflation throughout 1986-90

85.05.22

TABLE A-3

SOCIAL SCIENCES AND HUMANITIES RESEARCH COUNCIL OF CANADA

FIVE-YEAR PLAN: 1985-86 to 1989-90

(IN MILLIONS OF 1985-86 DOLLARS)

Reduced Option

| Programs | Estimates | Proposed Level of Funding | | | | |
|---|---|---|---|---|---|---|
| | 1985-86 | 1985-86 | 1986-87 | 1987-88 | 1988-89 | 1989-90 |
| Discipline-based Research | 26.7 | 28.9 | 29.9 | 30.1 | 30.6 | 31.1 |
| Strategic Programs | 5.3 | 10.0 | 14.0 | 13.9 | 15.4 | 17.1 |
| Human Resources Development | 16.2 | 18.2 | 24.2 | 30.1 | 34.9 | 40.0 |
| Research Communication | 6.4 | 6.4 | 7.4 | 7.9 | 8.4 | 8.9 |
| Research Centres | - | - | 3.5 | 6.0 | 8.0 | 10.0 |
| Canadian Research Institutes Abroad | - | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| Program Total | 54.6 | 63.9 | 79.4 | 88.4 | 97.7 | 107.5 |
| Operating Expenditures | 6.3 | 6.9 | 7.3 | 7.2 | 7.2 | 7.2 |
| TOTAL | 60.9 | 70.8 | 86.7 | 95.6 | 104.9 | 114.7 |

85.06.11

TABLE A-4

SOCIAL SCIENCES AND HUMANITIES RESEARCH COUNCIL OF CANADA

FIVE-YEAR PLAN: 1985-86 to 1989-90

(IN MILLIONS OF CURRENT DOLLARS*)

Reduced Option

| Programs | Estimates | Proposed Level of Funding | | | | |
|---|---|---|---|---|---|---|
| | 1985-86 | 1985-86 | 1986-87 | 1987-88 | 1988-89 | 1989-90 |
| Discipline-based Research | 26.7 | 28.9 | 31.1 | 32.5 | 34.4 | 36.3 |
| Strategic Programs | 5.3 | 10.0 | 14.6 | 15.1 | 17.3 | 20.0 |
| Human Resources Development | 16.2 | 18.2 | 25.2 | 32.6 | 39.2 | 46.7 |
| Research Communication | 6.4 | 6.4 | 7.7 | 8.5 | 9.4 | 10.4 |
| Research Centres | - | - | 3.6 | 6.5 | 9.0 | 11.7 |
| Canadian Research Institutes Abroad | - | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 |
| Program Total | 54.6 | 63.9 | 82.6 | 95.6 | 109.7 | 125.6 |
| Operating Expenditures | 6.3 | 6.9 | 7.6 | 7.8 | 8.1 | 8.4 |
| TOTAL | 60.9 | 70.8 | 90.2 | 103.4 | 117.8 | 134.0 |

* Assuming 4% annual inflation throughout 1986-90

85.06.11

APPENDIX B

GRANT PROGRAMS

1. Discipline-based Research

- Research grants are provided to scholars and groups of scholars for advanced research in the humanities and social sciences. Grants may amount to between $2,500 and $100,000 in any one year or up to $250,000 over three years; awards are made on the basis of peer assessment and through disciplinary selection committees. Almost 850 grants totalling over $15 million were provided in 1984-85.
- Major research grants (formerly negotiated grants) are offered to a scholar or team of scholars undertaking a large-scale research or editorial project with an annual budget of $100,000 or more or a three-year budget of $250,000 or more. Many of the projects are multidisciplinary and involve two or more institutions. Ongoing major research grants have usually numbered 20 in any one year, and one to three new grants have been awarded each year. Award holders are selected through peer assessment and review by adjudication committees. In 1984-85 negotiated and major grants projects were awarded some $6.5 million.
- Each year about 250 leave fellowships are offered to university scholars for research while on leave of absence; each is worth up to $10,000 plus research and travel costs. Just over $3.0 million in fellowships were offered in 1984-85. Applications are judged by selection committees grouped by discipline.
- General research grants are block awards made available to some 75 eligible Canadian universities, to provide for research grant and travel requests in amounts no larger than $2,500. Grants offered in 1984-85 totalled over $2.0 million.
- The Jules and Gabrielle Léger Fellowship is a special award for research and writing on the role of the Crown and Governor General in a parliamentary democracy. It is worth $20,000 plus $5,000 for research and travel.

2. Strategic Programs

Priority research programs were established in response to the government's stated interest in promoting research on subjects of national importance. The Minister of State for Science and Technology announced early in 1978 that he was making available $2 million for such research. The SSHRC proposed that $400,000 a year be granted out of these funds for the Dictionary of Canadian Biography, and that $1.6 million be used for two new programs -- each of which had grown out of consultative group reports commissioned by the Canada Council -- in support of research in population aging and for specialized collections in university research libraries.

A Strategic Grants Division was established in 1981 to administer this rapidly growing sector of work. Following are the broad-ranging programs offered in theses areas.

**Targeted Research**

Research on priority themes is directed tooard clearly delineated topics and presupposes a substantial commitment by the researcher to facilitating solutions to social needs or problems. Themes are also intended to encourage multidisciplinary research and information exchange through networks of researchers with common interests. Researchers are free to choose their research projects and methodologies, and awards are given on the basis of peer assessments and the recommendations of selection committees. Following are the themes and the types of support offered under each sub-program.

- Population Aging
  Strategic research grants are offered for research projects, including multidisciplinary research, in the population aging field. Regulations are essentially the same as for the Council's Research Grants program.
- Postdoctoral fellowships are available for scholars who have held a PhD in a relevant field for less than three years at the time of application. The basic award was $21,720 in 1984-85.
- Research workshops encourage scholars to develop research skills in population aging and to introduce themselves to new research areas in that field.
- Reorientation fellowships, which pay the scholar's full salary for up to eight months plus research and travel allowances for researchers with full-time university appointments ($22,740 for private scholars), are intended to help scholars redirect their studies into the field of population aging.
- Institutional grants are given for the operation of research institutes or for the expenses of visiting scholars. Five gerontological research centres are being supported with grants ranging from $70,000 to over $100,000 a year for three years.
- Research tools and facilities support is for the publishing of aids such as concordances and bibliographies or conference proceedings, or for the development of library resources in population aging.
- Research initiatives in population aging are projects which do not fall into any of the categories above but which meet the Council's intentions for this program.

Twenty new awards in these categories were made in 1984-85; together with renewals, total grants in Population Aging amounted to $1.2 million in that year.

The following four theme programs offer special research grants, seed money grants (for development of research proposals, up to $5,000), and research workshops (up to $15,000).

- The sub-program of The Family and the Socialization of Children is intended to promote research on the ways in which families function and how children's development is affected by the various influences on them. In 1984-85, 15 new awards were given and total grants were worth $663,123.
- Research under the theme Human Context of Science and Technology is intended to promote greater understanding of the cultural, ethical and social dimensions of science and technology in contemporary society. In 1984-85, grants totalling $586,000 were awarded to 18 new applicants and continuing projects.
- The new Women and Work program, introduced in 1983, is designed to foster and encourage research which will contribute to an understanding of the role of women's paid and unpaid work. In the two-year life of the program, 77 new awards have been
- made. Managing the Organization in Canada is a new program introduced in 1983 to address the practical problems of managing the organization in Canada. A total of 85 new awards have been offered in the first two years of the program.

**Development Areas**

Support under the Special Area Programs is provided to help fill gaps in specific sectors of research activity. The Aid to Small Universities program is "strategic," for example, in that small institutions may apply for funds to help upgrade their research and training facilities. Awards are made on the basis of selection committees' recommendations.

- Development of Management Research Doctoral completion fellowships, worth $18,660 in 1984-85, are offered to individuals who have held a full-time faculty appointment in management studies at a Canadian university for at least three years and who intend to return to university teaching and research. Reorientation fellowships provide full salary for up to eight months for tenured faculty members or $22,470 in 1984-85 for non-tenured PhDs. Research initiatives support activities to facilitate the communication of research results and those not covered by programs above. In 1984-85 a total of 29 new awards were made in these categories.
- Canadian Studies Research Tools provide grants of up to $75,000 a year for up to three years for bibliographies, guides, inventories and catalogues in Canadian studies. Fifty-four awards totalling over $1.8 million were made in 1984-85.
- Under the Aid to Small Universities Program, the Council offers grants to a maximum of $25,000 a year for up to three years to help upgrade and increase research and training capacities of designated small universities. Twenty such universities received assistance totalling $550,000 in 1984-85.

**Support to Specialized Collections**

- The Council introduced new programs for improving the collections of university research libraries in 1979-80. In 1984-85, 38 grants were made totalling $800,000. Two types of programs are offered. The Strengthening of Specialized Research Collections program helps university research libraries to acquire materials for collections of national or regional importance. The Fleeting Opportunities program enables university research libraries to buy works related to a collection of national or regional importance which suddenly become available and for which no funds have been budgeted.

3. Human Resources Development

- Doctoral fellowships, numbering some 1,000 a year, are awarded to outstanding Canadian students for doctoral studies in the humanities and social sciences. The value of these awards has risen from an average of $6,737 a year in 1978-79 to $11,340 in 1984-85. They are renewable for up to three years, and adjudication is by 16 disciplinary selection committees. Awards totalled just over $11 million in 1984-85.
- Special MA scholarships are offered to 100 Canadian students of exceptional promise for master's degree studies at a Canadian university. The value of these awards has risen from an average of $6,737 for one year's study to $11,340. The Queen's fellowships, three in number, are selected from special MA scholarship applicants and are for master's degree work in Canadian studies. These awards include travel and research allowances and tuition fees, in addition to the basic amount of the special MA scholarship. Over $1.1 million was offered in 1984-85.
- The first postdoctoral fellowships competition was held in the spring of 1980 for awards to be held in 1980-81. The objectives of the program are to retain in the field of scholarship the many highly qualified young doctoral graduates who might otherwise be lost to research in the humanities and social sciences and to support them in their research. The fellowships are open to scholars who have been awarded an earned doctoral degree no earlier than three years before the competition deadline. They were worth $21,720 in 1984-85. In that year, 122 fellowships totalling $2.4 million were offered in this program, and in 1985-86 the budget has been increased to $3.3 million to accommodate 154 awards.

4. Research Communication

- Learned journals published by learned societies, groups of scholars or institutions receive assistance toward publication costs. In 1984-85, 116 journals were supported and awards totalled $1.8 million.

- Conference grants, averaging $5,000, provide learned societies or universities with partial travel and subsistence costs for participation in scholarly conferences held in Canada. The 157 conferences supported in 1984-85 received a total of $743,384.
- Learned societies receive Council support for administrative expenses, attendance at annual meetings and special projects. About 72 such associations received a total of $378,000 for 1984-85. In addition, the Council provides sustaining grants to two umbrella groups, the Social Science Federation of Canada and the Canadian Federation for the Humanities; it also assists the Royal Society of Canada and the Association canadienne-française pour l'avancement de la science. These grants totalled over $1 million.
- Scholarly manuscripts are published under a grants program administered by the Social Science Federation of Canada and the Canadian Federation for the Humanities, using block funds ($1.2 million in 1984-85) provided by the Council.
- Travel grants for international conferences are available for Canadian scholars contributing to major international scholarly meetings. In 1984-85, 333 awards totalling $516,851 were made to Canadian scholars participating in conferences abroad.
- Travel grants for international representation are for Canadian scholars serving on boards of international scholarly organizations. One hundred and twenty scholars attended the planning and policy meetings of such organizations in 1984-85, receiving total grants of $187,616.
- The program of aid to international secretariats in Canada offers support for a limited period to help defray administrative costs. One such organization received a new award while four others received continuing support in 1984-85.
- Grants for international collaborative research provide assistance for consultations or seminars. Sixteen of these projects were awarded a total of $68,644 in 1984-85 for work in many parts of the world.
- Grants for visiting foreign scholars provide funds to Canadian universities inviting foreign scholars for one to four months for lectures, seminars and consultations. Ten Canadian universities received $89,486 under this program in 1984-85, hosting distinguished scholars from Europe and the United States.
- Grants to lecture abroad provide travel assistance to Canadian scholars invited by universities in other countries to give lecture tours. Eighteen Canadian researchers received a total of $30,737 for such lectures in 1984-85.
- Grants for international congresses in Canada cover the costs of administration, publication and participation. Four of these grants totalling $68,500 were made in 1984-85.
- Bilateral scholarly exchanges were established for the exchange of scholars under formal agreements between the SSHRC and parallel agencies in France, Japan, Hungary and China. An agreement with the Soviet Union is temporarily suspended. Approximately 56 Canadian and foreign scholars benefited from these exchanges in 1984-85, at a cost to the SSHRC approaching $150,000.

# RESEARCH GRANTS PROGRAM
## 1979-80 to 1984-85

The Research Grants program (RGP) is the major vehicle by which the Council supports discipline-based research. About 60 per cent of funds allocated for discipline-based research is disbursed through this program.

The inception of the Council's strategic thrust initially generated considerable suspicion among the clientele who feared that research of national importance would be supported at the expense of disciplinary research, notwithstanding the Council's assurance that discipline-based research would remain a priority, as indicated in the Council's first Five-Year Plan. This adverse reaction was all the more surprising considering that the program was already supporting researcher-initiated projects which could clearly be classified as relevant to Canadian concerns. For example, at the turn of the decade the Council was funding studies of Quebec fertility rates, Canadian fisheries development, the education of Indian children, and the Canadian juvenile court system, to offer a few examples.

The commitment to the academic community to retain discipline-based research as a priority has been honoured. The Research Grants program budget has risen from $7.1 million in 1979-80 to $15.7 million in 1983-84, an increase of 121 per cent. This has been accomplished in two ways: the Research Grants program has received proportionately larger annual increases than the Council's other non-strategic programs, and has also benefited from the injection of additional monies received for Canadian Studies, beginning in 1982-83.

Notwithstanding this increase in funding for the program, it has not kept up with demand. While the budget increased by 121 per cent between 1979-80 and 1983-84, new requests increased by 187 per cent over the same period, from $11.5 million to $33.0 million. The number of new applications received each year has increased from 695 to 1,215 during that period. At the same time, as a result of the Council's response to our scientists' need for longer term funding, commitments in each year for second and third year renewals were also increasing, taking 33 per cent of the Research Grants program budget in 1983-84 compared with 20 per cent in 1979-80.

The result has been a steady decline in the success rate for new applications from about 70 per cent of persons applying between the years 1979 and 1981, to just over 50 per cent in 1983-84. In terms of dollars requested and awarded the success rate declined from around 50 per cent to 32 per cent over the same period. These figures are set out in the accompanying tables. Table 1 shows the numbers and success rates of new applications between 1979-80 and 1984-85. Table 2 gives all awards for the same period, broken down into new grants and renewals.

TABLE 1

Research Grants
(New Applications Only)

| | Requests # | Awards # | Award Ratio % | Requested ($000) | Awarded ($000) | Award Ratio % |
|---|---|---|---|---|---|---|
| 1979-80 | 695 | 464 | 66.8 | 11,500 | 5,700 | 49.5 |
| 1980-81 | 660 | 478 | 72.4 | 11,100 | 6,300 | 56.3 |
| 1981-82 | 823 | 504 | 61.2 | 17,400 | 8,500 | 48.5 |
| 1982-83 | 987 | 608 | 61.6 | 25,500 | 11,900 | 46.5 |
| 1983-84 | 1,215 | 615 | 50.6 | 33,000 | 10,500 | 32.0 |
| 1984-85 | 1,042 | 620 | 59.5 | 26,400 | 10,600 | 40.2 |

TABLE 2

Research Grants
New Awards and Renewals as % of Total

| | New Awards | | Renewals | | Total | New Awards | | Renewals | | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| | # | % | # | % | # | ($000) | % | ($000) | % | ($000) |
| 1979-80 | 464 | 77 | 139 | 23 | 603 | 5,700 | 80 | 1,400 | 20 | 7,100 |
| 1980-81 | 478 | 77 | 141 | 23 | 619 | 6,300 | 78 | 1,800 | 22 | 8,100 |
| 1981-82 | 504 | 78 | 141 | 22 | 645 | 8,500 | 77 | 2,600 | 23 | 11,100 |
| 1982-83 | 608 | 76 | 194 | 24 | 802 | 11,900 | 75 | 4,000 | 25 | 15,900 |
| 1983-84 | 615 | 74 | 220 | 26 | 835 | 10,500 | 67 | 5,200 | 33 | 15,700 |
| 1984-85 | 620 | 73 | 226 | 27 | 846 | 10,600 | 70 | 4,600 | 30 | 15,200 |

As these tables indicate, there has been a reversal of this trend in the most recent fiscal year (1984-85). Last year the Research Grants program budget was able to accommodate approximately 60 per cent of persons applying for grants and to award 40 per cent of the dollars requested. Two factors seem to account for this. First, with declining success rates, adjudication committees have recently become more conservative in the amount awarded in long-term support; thus the proportion of the 1984-85 budget devoted to past commitments was down slightly to 30 per cent. More importantly, the low success rates in recent years appear to have acted as a deterrent to applicants: the number of new requests dropped to 1,042 in 1984-85, for a dollar demand of $26.4 million.

A particular aspect of this deterrent effect was the suspension in 1983 of Research Time Stipends for university faculty. It has been made abundantly clear to the Council that for many of the disciplines we support, free time to carry out research is one of the community's greatest needs. Table 3 indicates that a survey of social scientists elicited teaching load and administrative responsibilities as the major impediments to greater research activity.

TABLE 3

Geographical Region and Size of University: Mean Rating of Factors Perceived to be Greatest Impediments to Greater Research Productivity

| | Regions | | | | SSHRC | | Size of University | | | Impediment |
|---|---|---|---|---|---|---|---|---|---|---|
| | West | Ontario | Quebec | Atlantic | Funded | Non-Funded | Large | Medium | Small | Total |
| Teaching Load | 3.44 | 3.56 | 3.44 | 3.76 | 3.53 | 3.48 | 3.48 | 3.18 | 4.20 | 3.53 |
| Poor Graduate Training | .22 | .29 | .66 | .41 | .36 | .37 | .41 | .25 | .45 | .36 |
| Value by University | .37 | .38 | .75 | .65 | .50 | .53 | .49 | .35 | .77 | .50 |
| Lack of Facilities | .52 | .37 | .29 | .61 | .45 | .44 | .38 | .47 | .59 | .45 |
| Little Interest | .09 | .08 | .05 | .09 | .08 | .10 | .06 | .06 | .15 | .08 |
| Writing Problems | .38 | .46 | .36 | .51 | .42 | .41 | .43 | .41 | .39 | .42 |
| Administrative Responsibilities | 1.76 | 1.86 | 1.49 | 1.64 | 1.71 | 1.62 | 1.78 | 1.72 | 1.54 | 1.71 |
| Disillusioned | .34 | .20 | .31 | .41 | .31 | .46 | .25 | .39 | .33 | .31 |
| Lack Secretary | .79 | .71 | .83 | .36 | .69 | .70 | .70 | .69 | .68 | .69 |
| Poor Library | .92 | .43 | .82 | .61 | .70 | .71 | .61 | .86 | .66 | .70 |
| Poor at Statistics | .29 | .29 | .38 | .31 | .31 | .39 | .33 | .23 | .40 | .31 |
| Too Critical of Own Work | 1.15 | .73 | .87 | 1.18 | .98 | .98 | .90 | 1.09 | .99 | .98 |
| Insufficient Funds | 1.02 | .96 | 1.21 | .89 | 1.02 | 1.20 | .97 | .92 | 1.30 | 1.02 |
| Other | 1.37 | 1.43 | 1.65 | 1.27 | 1.34 | 1.26 | 2.23 | 1.68 | .96 | 1.34 |

Source: Research Activity in the Social Sciences, Adair and Davidson

The announcement was made in 1980 that stipends would become available in 1981 to free academics from teaching and administrative responsibilities so that they could devote their full time to research. The program clearly was responsible in part for the increased participation beginning in 1981. In fact, in 1981-82, nine per cent of the Research Grants program budget was accounted for by stipends. The success of this program component eventually led to suspension of stipends: the Council found itself unable to meet the demand with its limited budget. Table 1 shows the rise and fall in the participation rate concomitant with the life of the stipend.

In 1984-85, a total of 848 grants, including renewals, were awarded to individuals and teams. Although this figure is higher than in any previous year, it nevertheless represents only four per cent of the faculty in the disciplines we serve. Even taking into account arguments which suggest that social scientists and humanists may be less in need of external research funding than are the "hard" scientists, because of the nature of their research, this is an extremely small proportion of the SSHRC's potential clientele. Although the Council is the major source of funding for basic research in the human sciences in this country, social scientists and humanists are clearly reluctant to apply for funding. Feedback from the community suggests that one reason for this is the perception that, given such low success rates, the likelihood of obtaining support is very small in relation to the effort which must go into preparing a proposal if it is to have a chance of being among the successful few. Applicants are also reluctant to embark on a major program of research while adjudication committees are unwilling to offer long term funding, since this would entail annual applications for support and uncertainty of continued funding.

Uncertainty of funding is found not only among individuals, but also at the level of the university. Table 4 shows the allocation of funds over the past six years to selected universities of varying size across the country. Figures for the 1984-85 fiscal year should be regarded with caution since they are for new awards only, while previous years include renewals. Nevertheless, the table demonstrates annual differences of large magnitude. The irregular pattern of funding at many universities in this sample, Dalhousie, Manitoba and Calgary, for example, means that SSHRC does not provide a reliable source of funds to employ research assistants and to support students. Similarly, universities cannot be sure of the level of infrastructure required to support research in our disciplines from year to year. The result is a loss of valuable opportunities for training and creative work.

A review of Research Grants program procedures is currently underway. A major question being addressed is how to reorient the program in order to achieve several objectives: how to meet Canada's needs and those of the academic community; and how to simplify program procedures while maintaining standards of excellence. The question of career-based versus project support is therefore being debated. A potential difficulty is that simplification of the application process could result in an increase in demand which cannot be met in the Council's present financial circumstances.

TABLE 4

Research Grants
Awards (including renewals) to selected universities

| | 1979-80 | 1980-81 | 1981-82 | 1982-83 | 1983-84 | 1984-85 (new only) |
|---|---|---|---|---|---|---|
| | | | | $ (dollars) | | |
| Memorial | 150,180 | 165,169 | 288,406 | 288,649 | 271,276 | 146,672 |
| UPEI | 16,230 | 7,892 | 21,885 | 42,443 | 45,256 | 39,499 |
| Dalhousie | 20,991 | 121,949 | 57,530 | 90,867 | 139,943 | 55,243 |
| St. Mary's | 9,950 | - | 17,870 | 17,302 | 54,032 | 56,503 |
| Moncton | - | 25,664 | 122,891 | 156,285 | 18,228 | 3,620 |
| UNB | 17,171 | 33,553 | 21,193 | 70,044 | 75,130 | 57,600 |
| Concordia | 177,819 | 100,032 | 173,668 | 184,292 | 119,071 | 189,691 |
| Laval | 350,169 | 410,025 | 461,125 | 674,248 | 882,011 | 1,028,210 |
| Brock | 44,996 | 32,115 | 58,540 | 65,534 | 86,326 | 57,660 |
| Carleton | 369,775 | 429,618 | 198,523 | 872,407 | 437,337 | 256,854 |
| Toronto | 830,032 | 1,047,126 | 984,027 | 1,424,845 | 1,743,986 | 836,334 |
| Brandon | - | 4,805 | 4,510 | - | 9,818 | - |
| Manitoba | 158,374 | 117,377 | 367,374 | 437,422 | 250,632 | 142,644 |
| Regina | 4,905 | 10,093 | 18,380 | 29,388 | 10,258 | 29,446 |
| Alberta | 171,443 | 271,620 | 331,681 | 325,462 | 336,400 | 462,174 |
| Calgary | 234,530 | 146,434 | 261,066 | 485,889 | 408,233 | 188,676 |
| UBC | 545,858 | 474,684 | 764,067 | 1,061,949 | 1,349,029 | 673,310 |
| Victoria | 188,555 | 176,114 | 246,880 | 219,770 | 165,487 | 70,238 |

The foregoing analysis, however, strongly suggests that the potential for research within our community is not being realized. Only with a stable financial climate and the assurance of continued support can our scientists begin to embark on the important and relevant research they are capable of. That the potential is there is evident from the research already being supported by the Council. The SSHRC annual reports regularly describe a sample of the interesting projects undertaken with Council support each year. The final section of this appendix is devoted to examples of the research funded by the program in recent years, showing the diversity of topics studied.

Analyses of the Canadian content of research supported by the Research Grants program for the years 1979-80, 1980-81, 1982-83 and 1984-85 have been performed, and the results are shown in Tables 7 to 10 appended to this text. The Council defines Canadian Studies as "Research, research training, communications and related activities in the fields of the social sciences and humanities to promote knowledge about Canada by dealing with aspects of Canada's cultural, social, political and economic conditions, physical setting and place in the world." For the purposes of the Research Grants program study, Canadian content was defined as projects using Canadian topics, data or subjects.

About 50 per cent of the research supported by the program could be defined as Canadian Studies and this proportion remained fairly stable across the four years reviewed. Foreign subjects account for about a third of the research funded by the Research Grants program, while the remainder could be classified as theoretical.

In terms of budget, the amount spent on Canadian Studies in the Research Grants program increased from just under $4.0 million in 1979-81 to $7.8 million in 1982-83 (see Table 5). In 1982-83 additional funds were voted to the SSHRC for Canadian Studies and strategic research, of which the Council allocated a supplement of $1.9 million to the Research Grants program in aid of Canadian Studies. The figures for 1982-83 show an increase of $3.8 million for that field over 1980-81, an increase of considerably more than the $1.9 million supplement, indicating a continuing high interest on the part of our researchers in Canadian topics and concerns. Figures for 1984-85, while representing new awards only, show that this trend is continuing. When amounts for renewals are incorporated and the proportion of Canadian content calculated on the total budget of $15.2 million, it is projected that the amount awarded for Canadian Studies will be well over $8.0 million for the latest fiscal year.

TABLE 5

SSHRC Research Grants: Canadian Subjects or Data

| | Total: from SSHRC Annual Reports | Canadian Content | Proportion |
|---|---|---|---|
| | ($ million) | ($ million) | % |
| 1979-80 | 7.3 | 3.7 | 50.4 |
| 1980-81 | 7.7 | 4.0 | 52.5 |
| 1982-83 | 15.9 | 7.8 | 49.3 |
| 1984-85* | 10.6 | 6.0 | 56.6 |

* New applications only.

The years shown are the only years for which data on Canadian content are available.

A similar analysis was recently carried out on projects funded by the Research Grants program in the 1984-85 fiscal year, to determine to what extent this research could be classified as policy relevant. The results are shown in Table 6 and they indicate that a substantial amount of research supported by the program is relevant to Canadian public policy. It should be noted that some policy areas such as science and technology or women's studies may be under-represented in the Research Grants program because the Council operates specific programs in these areas within the Strategic Grants. As might be expected, the policy areas to which SSHRC-funded research makes its major contribution are health, welfare and social development, education, and economic development.

TABLE 6

RESEARCH GRANTS PROGRAM 1984-85
by Subject Areas
(New Awards Only)

| | $ | % |
|---|---|---|
| Arts & culture | 530,698 | 5 |
| Communications | 82,560 | 0.8 |
| Economic, regional & industrial development | 738,619 | 7 |
| Education | 1,056,602 | 10 |
| The elderly | 26,993 | 0.3 |
| Employment & immigration | 154,456 | 2 |
| Energy & environment | 118,233 | 1 |
| Foreign affairs | 85,756 | 0.8 |
| Health, welfare & social development | 1,261,357 | 12 |
| Justice | 293,276 | 3 |
| Native peoples | 150,436 | 1 |
| Northern development | 12,931 | 0.1 |
| Science & technology | 86,277 | 0.8 |
| Women | 41,138 | 0.4 |
| Youth | 139,176 | 1 |
| Transportation | 29,126 | 0.3 |
| Advancement of knowledge | 5,762,135 | 55 |
| TOTAL | 10,569,769 | 100 |

The results of this study indicate that the distance between the scholar and the policy-maker is less than commonly assumed. Although the Research Grants program has been known for its emphasis on scholarly, basic research, it is nevertheless clear that many of our researchers' interests have strong relevance for policy development.

## Conclusions

The research supported within the Research Grants program, while satisfying standards of scholarly excellence, is not esoteric and unrelated to the real world, but rather rooted in an interest in and concern for important issues for Canadian society.

The examples show that research on issues of national importance is already being supported by the Research Grants program, and that the potential for more is there if researchers are offered a reasonable expectation of funding. Knowledge of the type being generated by Canadian researchers cannot be imported, but must be produced within our own community. Just as our sociologists and psychologists discuss with caution theories of human behaviour based on foreign data, so must our policy decisions be based on Canadian facts. Our researchers have the potential to provide the necessary information about our culture, our economy and our political systems on which those policy decisions should be based.

## Examples of Projects Supported by the Research Grants Program

- Using public choice theory (borrowed from economics) and the example of Hamilton Harbour, a political scientist is analyzing the effects of institutional arrangements on one of the central issues of resource management: how rival and complementary uses of a natural resource can be accommodated.

- Resolution of conflicts between traditional and non-traditional ocean uses will require creative cooperation among Canada, Greenland/Denmark, and the Inuit to ensure that economic development proceeds on a scale and in a manner compatible with Northern cultural values and with a sensitive environment. One multidisciplinary project beginning in May, 1985 will work with Danish and Greenlandic research institutions to examine the prospects for regional cooperation.

- Using a statistical description of all Charter of Rights decisions, a law professor intends to show how the Charter is being interpreted by the courts in different regions and at different levels. He will relate this information to biographical information on the judges, and also monitor interest group use of the Charter as a political tactic.

- Two separate history projects focus on Canadian prime ministers. One is a two-volume biography of Lester Pearson. It will focus upon the development of Pearson's personality and interests, and the influence of his environment upon him. The first volume will end in 1948 with Pearson's entry into politics. The second project is the writing of a book centring on Prime Minister Diefenbaker and his role in international affairs. It will be a memoir based on the applicant's personal experience, examining the style, the substance and where possible, the international implications of Mr. Diefenbaker's foreign policy from 1957 to 1963.

- Several archaeologists are working in different areas of the country to retrace through archaeological methods the prehistory of Canada's Native peoples. The work of these archaeologists on their sites may well yield datable material that could set back the date for man's presence in this country and on this continent. Such evidence would constitute a very basic contribution to archaeology and history.

- A researcher is working on a long-term project which will be significant in understanding the religious life of Canada in the 19th and 20th centuries. The study of a great religious revival between 1840 and 1850, and the analysis of the economic, social and political crisis which was its background, may help us understand modern religious revivals in a variety of forms.

- Two different projects examine ethical issues. One researcher is exploring the dimensions of what is meant by "informed consent", a concept whose definition is becoming more and more pressing as medical technology develops and as bioethics receives more and more attention. Another project seeks to refine the concepts of autonomy, coercion and manipulation -- concepts which, in an increasingly ethics-conscious society, remain vague and controversial.

- A continuing literature project is producing a critical edition of the 1889-1908 diaries of L.M. Montgomery, the author of Anne of Green Gables.

- In geography a study will provide a review of the characteristics and patterns of prairie urbanization in 1981, together with the changes since 1971. It also examines those changes in society and technology that have modified concepts of urbanization: post-industrial versus industrial society, urbanization versus metropolitanization as well as "central place", "economic base", and "growth poles".

- A three-year longitudinal study will examine the relationships between home and preschool literate experience, specific oral language consequences of that experience, and ultimate success with the acquisition of literacy in early school settings.

- Premised on the assertion that schools both contribute to societal change and are affected by events outside the institution itself, another education study examines the impacts of specific elements of Canadian society during the period 1900-1925. Using the concept nationalism as its framework, the study analyses the manner and the time span in which imperial nationalism and Canadian nationalism were taught in the schools and also looks at the Imperial Order of the Daughters of the Empire (IODE) as an "outside the school group" affecting the curriculum of the school; evaluates one outcome of the IODE imperialistic program -- the entry of Canada into World War I -- on the school itself; and explains the development of the Junior Red Cross as a civics education program at the end of the war.

- A sociology project proposes to examine the process of acquiring (mastering) and exporting Canadian energy technology in all its forms. The central hypothesis is that the expertise enjoyed by Canada in the energy field is derived from the involvement of Crown corporations (such as EAC Ltd, Hydro-Québec and Ontario Hydro) which have brought about a transfer of foreign technology to Canadian firms through, among other things, public orders. A similar process is starting to appear in the oil sector as a result of the activities of corporations such as Petro-Canada, Canterra and Nova.

- Using the British model as the basis of comparison, another study proposes to examine the trends and development of public policy in the area of health in Canada and Australia from a sociological perspective. The investigator plans to identify the conditions which lead to lasting change in the organization of health services.

- A study in physical education examines how the images and messages of sports events are manufactured, shaped and transformed by being presented to the public on television. The study analyses the social and political significance of sport in modern life as affected by professional presentation and transmission in the mass media, particularly television.

- A cross-national study examines two types of public policy responses to the economic crisis of stagflation: the policies of market-pluralism and social-corporatism. The project will focus, in particular, on policy orientations and outcomes in the areas of unemployment, inflation, economic growth, social programs and expenditures, wages and profits, and deficits, in terms of the different costs and benefits for different sectors of the population.

- Using social network analysis, a study has been designed to examine how the social and emotional support provided by an individual's "personal community" (family, friends, neighbours, etc.) affects their mental health and well-being. The study is expected to be of interest to practitioners and planners in health and social services.

- By analyzing differences in the socialization experience of young people, another sociological study proposes to explain the differences in educational and occupational aspirations and attainments of male and female Canadians, focusing in particular on the nature, extent and sources of gender differences.

- A team of researchers plans to do a sociological analysis of consumer practices in Canada and to analyse, for Canada and the individual provinces, the social needs revealed by housekeeping budgets. They will concentrate the analysis on the needs of consumers and the efficacy of goods and services purchased.

- Two literary biographies are underway: one of the jurist, scholar, social activist and poet, F.R. Scott; another of the celebrated author of Jake and the Kid, W.O. Mitchell.

- Many of our researchers are interested in the problems of the Canadian North. One such project is aimed at understanding the manner in which the North Alaskan Native community has undertaken to protect its interest in the bowhead whale as an important resource. It also studies how an innovative

management institution (Alaskan Eskimo Whaling Commission) seeks to reconcile its effective yet non-traditional modus operandi with the goal of preserving Inupiat-Yupik traditions and societies.

- Another project analyzes both the effects of those provisions of the James Bay and Northern Quebec Agreement intended to reduce and remedy the impacts of previous government interventions on James Bay Cree wildlife use and management practices; it also studies the interactions of an indigenous population and governments which exercise management responsibilities with respect to shared resources.

- In the northern parts of Canada and Quebec, the traditional hunting, fishing and trapping activities of native groups are threatened not only by industrialization but also by the increasing number of non-natives engaging in sport hunting and fishing. There are agreements to protect the traditional activities of groups such as the Cree and Naskapi Indians and the Inuit. Others, such as the Ahikameks and the Montagnais, are beginning negotiations. These negotiations between native and government representatives are to be based on scientific data regarding the extent to which fauna resources are presently exploited and the future needs of the groups concerned.

- In communications, a research project examines the historical context of Inuit-non-Inuit interaction in the Eastern Arctic, the relationship of emerging patterns to the introduction and current use of northern media, and the establishment of indigenous communications institutions in the North. It examines historical and contemporary communication trends in relation to non-Native control and indigenous participation in the process of northern development.

- An anthropologist is studying the relationships between religious and ethnic identities as well as the institutions and behaviour of Southeast Asian immigrants in Toronto.

- In the late 1960s and early 1970s a dramatic experiment in guaranteed annual income was tried in Manitoba (MINCOME). Some segments of the business community claim that the GAI as well as UIC have harmful effects on the labour supply because people stay at home. A SSHRC supported study is measuring the effects of the MINCOME experiment on labour supply.

- Central to a national industrial policy is the policy of taxation in the natural resource area. Another economics study aims to look at the effect of natural resource taxes on the discovery, development and utilisation of natural resources.

- A sociologist is studying the significance of various land-based and sea-based factors in the survival and proliferation of small- and intermediate-scale fish processing in Nova Scotia.

- Another sociologist is examining the linguistic, occupational and socio-cultural adjustment of private and government-sponsored refugees, as well as the role which private sponsors play in the adjustment process of refugees. By asking the same questions of both sponsors and refugees, the refugees' process of adjustment, as well as the sponsors' role as social facilitator and cultural mediator, can be analyzed both from the perspective of the sponsor and from the perspective of the refugees. This comparison will make it possible to assess the relative impact of each mode of sponsorship on the refugees' adjustment.

- The theory and history of translation are elements of a nascent discipline, the systematic study of translation, and they are often described in a sort of contextual vacuum. The practical side of translation is studied by itself without reference to the other "textual functions" that define the process. To understand the status of the translator and the limited authority now granted to him, the concept of authorship must first be defined. The approach adopted is novel in that it consists of a detailed examination of the notion of "copyright". We shall try to establish a historical context for the present debate over whether or not translators should be entitled to copyright their work.

- Field research is being conducted in Iroquoian and Algonkian communities to document musical instruments and produce a computerized catalogue of "sound producing instruments" used in the Eastern Woodlands.

- Another musical anthology being produced is a multi-volume work devoted to early Canadian music from the earliest examples of Canadian composition up to the twentieth century.

- Modes of travel occupy planners, economists and politicians as people's tastes and needs in transportation change. The use of large or small cars, buses or trains for travel to and from work presents a puzzle which econometricians may help to resolve. A major research project seeks to develop analytical tools to measure consumers' travel patterns so that transportation policies can be worked out to meet anticipated demand.

- Another group of econometricians is studying the effectiveness of our public school system, specifically in Quebec. The researchers are looking into whether or not special projects designed to redress the disadvantages suffered by some children

in inner-city schools are helping to achieve the social goals set for for the public education system -- that is, to provide equality of opportunity.

- A veritable new Vertical Mosaic analysis of the Canadian class structure and labour process, life changes of workers and worker consciousness in the workplace is being conducted by a team of sociologists as part of a cross-national study involving the United States, Sweden, Finland, Australia, Britain, Italy and Norway. Their questionnaires seek a wide range of information on employees' supervision of other people, decision-making on the job, autonomy over one's work, income sources, self-employment and employment of others, sexual division of labour, and union and political activism. The answers should provide the most detailed information ever obtained on the social relations of authority and control in the Canadian workplace.

- A Toronto-based study of working women is focusing on clerical workers in medium-sized firms in Ontario and their reactions to office automation. About one-third of women workers in Canada are in clerical positions, making this the fastest growing section of the labour force. Dislocation of these workers by automation would have a major impact on Canadian society if they fail to retrain, or remain unemployed or underemployed.

- A British Columbia economist has developed a macroeconomic model to explain the links between natural resources and the economy as a whole. His work entails a detailed study of particular resource development projects such as Arctic pipelines, oilsands development and offshore oil explorations, combined with an analysis of changes in domestic energy policy, world oil prices, fiscal policy and world interest rates.

- In Hamilton researchers are investigating the making of industrial policy in Canada, specifically in the chemical, electronics, food-processing and textile sectors. In assessing the various structures that exist to bring together federal bureaucrats and the business community, as well as bureaucrats and politicians, the researchers will evaluate the ability of the state to steer economic development in our society.

- Work on our heritage includes one of Canada's newest and most lively books, the Dictionary of Newfoundland English. Never before has the colour and bite of Newfoundland speech been so accessible to the Mainlander. Combining an abundance of history and lore, the dictionary contains examples of Newfoundland's speech, themselves fascinating bits of social history.

- A new book documenting the complexities of recording oral vernacular speech, Précis de transcription de documents d'archives orales, is about the techniques of transcribing oral

materials and shows the problems ethnographers have with phonetics, spelling, grammar, verbal tics, useless words, onomatopoeia, use of archaic forms, contractions, and so on. All this is being put to use in French-language folklore research.

- Acadian folklore is being studied in three villages in Nova Scotia: Petit de Grat, Pomquet, and Chezzetcook. Colonized in the 18th and 19th centuries by Acadians, these communities are today surrounded by English speakers and have been almost entirely neglected by folklorists. The study aims to discover what folklore the Acadians preserve and how their traditions have evolved in isolated minority conditions.

- Many Native cultures in Canada are in danger of losing their heritage. An analysis of the Blackfoot language in the West is being undertaken to help linguists researching the Algonquian languages, as well as to meet a serious practical need on reserves where Blackfoot is still spoken: the Blood, Piegan and Blackfoot reserves in Southern Alberta and the Blackfoot reserves in Montana.

Table 7
Canadian Content, Theoretical and Foreign Subjects by Discipline
Research Grants Program
1979-1980 (Dollars committed)

| Discipline | Total | Canadian Content | | Theoretical Projects | | Foreign Subjects | |
|---|---|---|---|---|---|---|---|
| | | $ | % | $ | % | $ | % |
| Administrative Studies | 119,037 | 23,950 | 20.11 | 95,087 | 79.88 | - | - |
| Anthropology | 196,651 | 98,034 | 49.85 | 15,000 | 7.62 | 83,617 | 42.52 |
| Archaeology | 1,121,130 | 198,463 | 17.70 | 18,195 | 1.62 | 904,472 | 80.67 |
| Art History | 69,671 | 25,584 | 36.72 | - | - | 44,087 | 63.27 |
| Economics | 496,144 | 313,416 | 63.17 | 159,700 | 32.18 | 23,028 | 4.64 |
| Education | 124,183 | 124,183 | 100.00 | - | - | - | - |
| Geography | 226,275 | 182,365 | 80.59 | 7,931 | 3.50 | 35,979 | 15.90 |
| History | 737,627 | 311,986 | 42.29 | 49,367 | 6.69 | 376,274 | 51.01 |
| Industrial Relations | 15,868 | 15,868 | 100.00 | - | - | - | - |
| Law | 95,819 | 83,258 | 86.89 | - | - | 12,561 | 13.10 |
| Linguistics | 561,056 | 395,481 | 70.48 | 75,611 | 13.47 | 89,964 | 16.03 |
| Literature | 713,026 | 211,422 | 29.65 | 82,759 | 11.61 | 418,845 | 58.74 |
| Philosophy | 172,561 | 57,308 | 33.21 | 80,312 | 46.54 | 34,941 | 20.24 |
| Political Science | 593,719 | 436,839 | 73.57 | 57,172 | 9.62 | 99,708 | 16.79 |
| Psychology | 936,023 | 663,498 | 70.88 | 272,525 | 29.11 | - | - |
| Religious Studies | 82,587 | 9,919 | 12.01 | 47,759 | 57.82 | 24,909 | 30.16 |
| Sociology | 387,980 | 262,786 | 67.73 | 6,842 | 1.76 | 118,352 | 30.50 |
| Other | 621,814 | 253,098 | 40.70 | 221,147 | 35.56 | 147,569 | 23.73 |
| TOTAL | 7,271,171 | 3,667,458 | 50.43 | 1,189,407 | 16.35 | 2,414,306 | 33.20 |

Table 8

Canadian Content, Theoretical and Foreign Subjects by Discipline

Research Grants Program

1980-1981 (Dollars committed)

| Discipline | Total | Canadian Content | | Theoretical Projects | | Foreign Subjects | |
|---|---|---|---|---|---|---|---|
| | | $ | % | $ | % | $ | % |
| Administrative Studies | 181,992 | 103,659 | 56.96 | 54,333 | 29.85 | 24,000 | 13.19 |
| Anthropology | 264,658 | 39,931 | 15.09 | 4,153 | 1.57 | 220,574 | 83.34 |
| Archaeology | 1,363,480 | 294,381 | 21.59 | 25,864 | 1.90 | 1,043,235 | 76.51 |
| Art History | 62,027 | 3,434 | 5.54 | - | - | 58,593 | 94.46 |
| Economics | 589,792 | 539,377 | 91.45 | - | - | 50,415 | 8.55 |
| Education | 342,626 | 301,722 | 88.06 | - | - | 40,904 | 11.94 |
| Geography | 199,459 | 143,752 | 72.07 | - | - | 55,707 | 27.93 |
| History | 511,078 | 199,519 | 39.04 | - | - | 311,559 | 60.96 |
| Industrial Relations | 31,767 | 31,767 | 100. | - | - | - | - |
| Law | 89,461 | 76,185 | 85.16 | - | - | 13,276 | 14.84 |
| Linguistics | 578,019 | 343,348 | 59.40 | 70,695 | 12.23 | 163,976 | 28.37 |
| Literature | 542,715 | 130,824 | 24.11 | 7,135 | 1.31 | 404,756 | 74.58 |
| Philosophy | 190,694 | 74,123 | 38.87 | 58,171 | 30.50 | 53,397 | 30.62 |
| Political Science | 576,695 | 357,320 | 61.96 | - | - | 219,372 | 38.04 |
| Psychology | 855,530 | 793,050 | 92.70 | 47,480 | 5.55 | 15,000 | 1.75 |
| Religious Studies | 93,594 | - | - | 6,660 | 7.12 | 86,934 | 92.88 |
| Sociology | 264,535 | 191,840 | 72.52 | 17,267 | 6.53 | 55,428 | 20.95 |
| Other | 921,301 | 394,207 | 42.79 | 337,918 | 36.68 | 480,934 | 52.20 |
| TOTAL | 7,659,423 | 4,018,455 | 52.46 | 337,918 | 4.41 | 3,303,060 | 43.12 |

Table 9

Canadian Content, Theoretical and Foreign Subjects by Discipline

Research Grants Program (first-time awards only)

1982-1983 (Dollars committed)

| Discipline | Total | Canadian Content | | Theoretical Projects | | Foreign Subjects | |
|---|---|---|---|---|---|---|---|
| | | $ | % | $ | % | $ | % |
| Administrative Studies | 332,984 | 304,985 | 91.6 | 13,900 | 4.2 | 14,099 | 4.2 |
| Anthropology | 606,239 | 396,471 | 65.4 | 4,005 | 0.7 | 205,763 | 34.0 |
| Archaeology | 674,628 | 66,103 | 9.8 | - | - | 608,525 | 90.2 |
| Art History | 59,362 | 16,602 | 28.0 | 38,812 | 65.4 | 3,948 | 6.7 |
| Economics | 658,019 | 442,011 | 67.2 | 181,256 | 27.6 | 34,752 | 5.3 |
| Education | 441,099 | 413,103 | 93.7 | 27,996 | 6.4 | - | - |
| Geography | 307,351 | 209,753 | 68.3 | 13,107 | 4.3 | 84,491 | 27.5 |
| History | 984,837 | 448,596 | 45.6 | 137,946 | 14.0 | 398,295 | 40.5 |
| Industrial Relations | 33,360 | 33,360 | 100.0 | - | - | - | - |
| Law | 96,571 | 48,505 | 50.2 | 48,066 | 49.8 | - | - |
| Linguistics | 585,495 | 420,459 | 71.8 | 62,814 | 10.7 | 102,222 | 17.5 |
| Literature | 1,186,001 | 118,746 | 10.0 | 20,461 | 1.7 | 1,046,794 | 88.3 |
| Philosophy | 439,380 | - | - | 439,380 | 100.0 | - | - |
| Political Science | 1,219,968 | 671,866 | 55.1 | 292,749 | 24.0 | 255,333 | 20.9 |
| Psychology | 738,668 | 277,740 | 37.6 | 460,928 | 62.4 | - | - |
| Religious Studies | 111,428 | 68,073 | 61.1 | 43,355 | 38.9 | - | - |
| Sociology | 1,046,100 | 954,142 | 91.2 | 54,426 | 5.2 | 37,532 | 3.6 |
| Other | 926,810 | 254,470 | 27.4 | 460,669 | 49.7 | 211,671 | 22.8 |
| TOTAL | 10,448,300 | 5,144,985 | 49.3 | 2,299,870 | 22.0 | 3,003,425 | 28.8 |

Table 10

Canadian Content, Theoretical and Foreign Subjects by Discipline

Research Grants Program (first-time awards only)

(Dollars committed)

1984-1985

| Discipline | Total | Canadian Content | | Theoretical Projects | | Foreign Subjects | |
|---|---|---|---|---|---|---|---|
| | | $ | % | $ | % | $ | % |
| Administrative Studies | 80,513 | 80,513 | 100.00 | nil | 0.00 | nil | 0.00 |
| Anthropology | 275,288 | 102,609 | 37.27 | 39,273 | 14.27 | 133,406 | 48.46 |
| Archaeology | 784,851 | 166,871 | 21.26 | 62,000 | 7.90 | 555,980 | 70.84 |
| Architecture | 20,000 | 20,000 | 100.00 | nil | 0.00 | nil | 0.00 |
| Communications | 178,100 | 124,827 | 70.09 | nil | 0.00 | 53,273 | 29.91 |
| Criminology | 127,983 | 127,983 | 100.00 | nil | 0.00 | nil | 0.00 |
| Economics | 664,764 | 514,811 | 77.44 | 84,787 | 12.75 | 65,166 | 9.80 |
| Education | 1,007,278 | 814,898 | 80.90 | 126,775 | 12.59 | 65,605 | 6.51 |
| Fine Arts | 68,539 | 7,588 | 11.07 | 4,344 | 6.34 | 56,607 | 82.59 |
| Geography | 398,887 | 187,017 | 46.88 | 60,622 | 15.20 | 151,248 | 37.92 |
| History | 1,349,545 | 1,686,973 | 50.90 | 93,257 | 6.91 | 569,315 | 42.19 |
| Industrial Relations | 61,294 | 61,294 | 100.00 | nil | 0.00 | nil | 0.00 |
| Interdisciplinary Studies | 124,818 | 30,214 | 24.21 | 35,316 | 28.29 | 59,288 | 46.50 |
| Law | 197,867 | 150,277 | 75.95 | 24,020 | 12.14 | 23,570 | 11.91 |
| Linguistics | 512,329 | 174,055 | 33.97 | 171,343 | 33.44 | 166,931 | 32.58 |
| Literature | 947,052 | 276,357 | 29.18 | 143,522 | 15.15 | 527,173 | 55.66 |
| Musicology | 155,787 | 55,588 | 35.68 | 61,690 | 39.60 | 38,509 | 24.72 |
| Not specified | 335,123 | 233,963 | 69.81 | 31,932 | 9.53 | 69,228 | 20.66 |
| Other | 499,708 | 403,131 | 80.67 | 58,340 | 0.12 | 38,237 | 7.65 |
| Philosophy | 206,153 | 8,209 | 3.98 | 197,944 | 96.02 | nil | 0.00 |
| Political Science | 607,340 | 396,969 | 65.36 | 10,647 | 1.75 | 199,724 | 32.89 |
| Psychology | 988,498 | 652,025 | 65.96 | 336,473 | 34.04 | nil | 0.00 |
| Religious Studies | 174,831 | 37,611 | 21.51 | 13,873 | 7.94 | 123,347 | 70.55 |
| Sociology | 803,221 | 664,020 | 82.67 | 35,877 | 4.47 | 103,324 | 12.86 |
| TOTAL | 10,569,769 | 5,977,803 | 56.6% | 1,591,035 | 15.0% | 2,999,931 | 28.4% |

# PROGRESS REPORT ON RESULTS OF ADDITIONAL GOVERNMENT FUNDING TO EXPAND THE STRATEGIC GRANTS PROGRAM IN THE SOCIAL SCIENCES AND HUMANITIES RESEARCH COUNCIL 1981-82 to 1984-85

The Social Sciences and Humanities Research Council launched its Strategic Grants program in 1979 when the Minister of State for Science and Technology made available $2 million for human science research in the national interest as part of a new federal government initiative to promote research and development in Canada. About 150 applications were received in the first year. From these relatively modest beginnings, the Strategic Grants program has grown considerably to reach a high point in 1983-84, when 666 applications were received and the division administered a budget of $7.2 million across its nine programs.

Of particular importance in expanding the Strategic Grants program was the January 1982 approval of $11 million in new funding for the Council. The additional funding provided $1 million in 1981-82 and another $5 million in each of the next two fiscal years for fundamental research in Canadian studies and to increase Council support for research on a variety of themes of national concern.

## 1. Introduction of the Strategic Grants Concept

In response to the announcement in 1978 that $2 million was available to the newly formed SSHRC for strategic programs of research in the national interest, the Council debated the principles of strategic research. The following were accepted:

- The Council retains responsibility for identifying priority areas for research support.
- These areas will be chosen after consultation with the research community.
- Although strategic programs attempt to orient research toward particular areas, researchers are free to adopt the conceptual framework and methodological approach of their choice.

Thematic programs support research that aims to establish a base of knowledge on identified social needs or problems. These programs are intended:

- to encourage new approaches to research including, but not limited to, two or more disciplines;
- to facilitate information exchange through networks of researchers with common interests;

- to enhance knowledge bases leading to the formation of more effective policies facilitating the solution of given problems;

- to provide rapid dissemination of significant research findings to appropriate practitioners, policy-makers and the public; and

- to attain synthesis, integration and coherence in work on a particular theme.

Special area programs are intended to provide a base of support for specific areas in the humanities and social sciences such as infrastructure and research support services. Another important objective of these programs is to help ensure a regional balance in research capacity across the country.

## 2. The First Two Years (1979-80 to 1980-81)

In the first year of the new program the SSHRC proposed four separate activities. The main thrust was for a new program of thematic research on Population Aging. In 1976, the Canada Council Consultative Group on Research in Gerontology and Population Aging concluded that although a fundamental shift in the demographic structure of our society was occurring, one which would have profound effects on our economic, social and cultural development, research in the area was almost totally lacking. The Council also introduced a new program to support special collections of research resources for university libraries. Impetus for introducing this program came in 1978 with the publication of the Canada Council's consultative group report on University Research Libraries. One of the main recommendations of the report was that the Council establish a program to maintain and develop specialized collections of national significance in Canadian university libraries.

The third component of the new Strategic Grants program in its first year was accelerated funding for the Dictionary of Canadian Biography. This basic reference work for historians and all those interested in Canadian studies had been supported by the Canada Council since 1962.

The fourth component was the launching of a broad consultation to identify potential new themes and areas for support under the Strategic Grants program and to plan their development.

Four topics were selected for workshops which were held in the autumn of 1979. Two of these themes, the Family and the Socialization of Children, and the Human Context of Science and Technology, were chosen for further study through regional workshops during 1980.

Also during 1979 the Council appointed a consultative group to examine research and graduate education in business, management and administrative studies. The group's report was submitted to the Council in 1979-80. In the following spring the Council declared management studies a priority area and introduced programs aimed at increasing the supply of management faculty and upgrading their research skills.

In addition to the Council's own extensive consultations to develop specific areas and themes, it helped other organizations to examine the strategic research concept and suggest themes. These organizations include the Canadian Federation for the Humanities, the Canadian Federation of Deans of Management and Administrative Studies, the Administrative Sciences Association of Canada and the Social Science Federation of Canada. All have presented reports to the Council.

Much was accomplished in the first two years of the Strategic Grants program. The Council drafted the regulations required for the wide range of new programs of grants and fellowships, appointed adjudication committees and awarded some 127 grants and fellowships with expenditures of $2.4 million.

### 3. The Next Three Years: Expansion of the Program (1981-82 to 1983-84)

Strategic grants and Canadian Studies received $11 million in new funding over a three-year period to support fundamental research in Canadian Studies and to expand the program of Strategic Grants. Nearly $1 million was allocated to Strategics in 1981-82 and about $3.9 million in each of 1982-83 and 1983-84. The new themes for which increased funding was made available were Population Aging, Family and the Socialization of Children, and the Human Context of Science and Technology. The Council also started preparations for strategic research on women and work and Native studies. In addition, the Council initiated programs geared to develop management research and to strengthen the research capabilities in small regional universities. It also directed more funds toward the provision of research tools and resources and the dissemination of research results.

#### The Family and the Socialization of Children

In 1979 when the Council invited the research community in Canada to suggest potential themes for support under the Strategic Grants program, a number of people suggested that new patterns of family structure and lifestyle required research. The Council therefore sponsored a workshop at the University of Western Ontario in 1979 and another the following year at the University of Québec at Trois-Rivières to assist in planning the program and to define the research needs.

The advice which the Council received in these consultations indicated significant gaps in our knowledge of how families actually function and how the development of children was affected by the various influences on them. The following factors, some of which are particularly Canadian, emerged as the source of these deficiencies.

- Studies containing Canadian data are scattered in various types of institutions, and it is difficult to obtain access to them.

- Research results are segregated according to the disciplines in which the problem is studied.

- Most studies consider principally one variable which may not be adequate to explain phenomena as complex as the evolution of the child and the family system.

- The modes of organization of research do not sufficiently encourage collaborative research.

- There is inadequate cooperation and communication among research organizations and service organizations.

Evidently not enough research had been developed which was pertinent to new needs and new social realities; nor was research sufficiently accessible to practitioners. It seemed that researchers often had difficulty gaining access to their target populations and thus fell back on laboratory studies.

In 1982, the Council launched a new program for research on the Family and the Socialization of Children, with the following objectives:

- to promote the compilation, synthesis and dissemination of research carried out in different regions;

- to encourage the development of strategies to permit collaboration and cooperation of researchers from various disciplines;

- to foster relationships between research organizations and community-based or service-oriented organizations to permit researchers to benefit from the experience of practitioners in elaborating research that conforms to societal needs; to encourage dissemination of research results to practitioners to ensure more immediate use of such information; to encourage researchers to do more research in the social environment; and to offer practitioners an opportunity to engage in collaborative and multidisciplinary research.

## The Human Context of Science and Technology

In 1979, a number of researchers pointed out that rapid advances in technology necessitate a fuller understanding of the human side of our technologically oriented society. A workshop was held at St. Mary's, Ontario, to define the scope of concern, assess the state of existing research, and identify gaps and research priorities for future work in the field. During 1980 there was further development of the theme through a series of regional workshops culminating in a national workshop in the fall of 1980.

The report to the Council indicated that while existing Canadian research in the area was valuable and provided a framework and foundation for future work, it nevertheless had four related deficiencies.

- There was not nearly enough work being done on the human context of science and technology.
- Many serious, or potentially serious, problems had received inadequate attention.
- Much work was dominated by specialists in various areas who had not placed their research in the context of wider concerns, adopting a restricted, disciplinary scope when an interdisciplinary perspective was required.
- Many groups and constituencies (e.g. women and industrial workers) with legitimate and pressing concerns were excluded from analyses of the issues.

A new program to support research on the Human Context of Science and Technology was introduced with the main objective of promoting and assisting research which contributes to an understanding of the cultural, ethical and social dimensions of science and technology in contemporary society.

Within this general purpose, sub-objectives were proposed to encourage

- innovative approaches to research in the area;
- active involvement of humanists, scientists, technicians, social scientists and the general public in questions on the value and social implications of scientific and technological activities;
- holistic approaches to problem areas and collaborative efforts among researchers;
- effective problem identification through improved communication with those constituencies outside the academic community which are affected by the evolution of science and technology, and

- greater public awareness of the ethical and social implications of science and technology.

Management Studies

In 1980, the Council awarded a grant for a national conference of the Canadian Federation of Deans of Management and Administrative Studies and the Administrative Sciences Association of Canada. One of the main tasks of conference participants was to develop a list of themes or topics which should be given priority in research over the next decade. Results of a survey of management faculty formed the basis for these discussions.

In a report to the Council in February 1981, the Canadian Federation of Deans of Management and Administrative Studies and the Administrative Sciences Association of Canada identified eight priority areas for a new program, Managing the Organization in Canada, intended to address the practical ongoing problems of organization management. A complement to early programs to develop management research capacity, it was introduced in the spring of 1983 with the following priority areas for research:

- managing productivity, efficiency, and competitiveness of Canadian enterprise;

- managing innovation, research and development, and the transfer of technology in Canada;

- managing international business in the Canadian context: export development, product mandates, roles of multinational corporations;

- managing strategic relationships and social responsibilities in an institutional and/or organizational sense;

- managing human resources, labour, compensation, rewards, industrial relations, nature of work and working life;

- entrepreneurship, development and management of small and medium-sized firms;

- financial management and markets; and

- managing information and information systems in Canada.

Aid to Small Universities

In 1976, the Canada Council established a Consultative Group on the Needs of Scholars at Small Universities, which found that small universities share a cluster of problems which act as an impediment to research by their faculty:

- they lack a research tradition;

- teaching loads are heavy due to high undergraduate enrolments and often because of the large number of undergraduate courses offered;

- they offer few graduate programs, resulting in a shortage of graduate research assistants and a lack of academic challenge;

- they lack internal funds for faculty research;

- secretarial assistance is inadequate;

- library and archival resources are often woefully inadequate so that even the most basic research materials are not available locally; data banks and other research facilities are lacking;

- small departments provide scholars with limited access to others in the same field, thus denying them the stimulus of exchange of ideas; and

- they are often located in geographically isolated communities.

In the fall of 1981, the SSHRC started planning a new program to help upgrade the research and training capacity of small universities. Letters were sent to all eligible universities inviting them to state their particular research and training needs. At its March 1982 meeting, the Council made awards to some 20 small universities to enable them to undertake new research projects.

Canadian Studies Research Tools

Associated with the program to strengthen specialized collections in university research libraries is a Council initiative to make archival or library collections more accessible to researchers. Introduced in 1981, the Canadian Studies Research Tools program provides assistance to institutions and organizations wishing to establish or improve catalogues and finding aids to what have sometimes been virtually inaccessible collections of Canadian materials. The aim of this program is to help ensure a strong, well-developed and coordinated infrastructure of resources for research. Specifically, it serves the dual purpose of:

- making accessible hitherto not readily available material in libraries and archives through the cataloguing of library collections or the preparation of inventories or guides to archival collections; and

- facilitating access to research sources through the preparation of bibliographies, guides to research and other finding aids considered to be of prime importance for advanced research in Canadian Studies.

Women and Work

The Council sponsored a workshop to discuss a proposed new Strategic Grants program on women's issues at the University of British Columbia in January 1981. A wide range of topics were discussed at the workshop including women's labour in the home, the role of women in trade unions and education, and the participation of women in the labour force.

Early in 1982 the SSHRC appointed a task force of specialists in the field to advise it on planning the new program and funded a series of regional and national workshops focusing on particular aspects of women and work. Following these extensive consultations, which involved well over 100 researchers from all regions of the country, the task force synthesized the workshop recommendations and presented program proposals to the March 1983 meeting of the Council.

The objective of the new program approved by the Council is to foster and encourage research and scholarship which will contribute to an integrated understanding of the role of women's paid and unpaid work. This knowledge may in turn serve as a basis for future development of theory and policy aimed at improving the status of women in Canadian society. In addition to supporting individual research, the program is designed to encourage the following:

- cooperation and collaboration of researchers inside or outside the university;
- projects of a multidisciplinary nature;
- cooperation and consultation between researchers and organizations which will potentially benefit from the research; and
- the compilation, synthesis and national dissemination of research carried out in different regions of the country.

4. Expansion of the Strategic Grants Program 1981-82 to 1983-84: What Has Been Accomplished?

When the Council and its advisory bodies debated the implications of introducing new programs of Strategic Grants in 1979-80, they considered it prudent to start on a relatively modest scale. There were reservations in the academic community about the implications of the new orientation and the Council was conscious of the need for careful planning and consultation with the research community in developing the strategic programs. The Council selected Population Aging and Research Resources as the first programs to be supported.

The impact of the additional funding on the expansion of the Strategic Grants program can be seen in Tables 1 and 2. In the first year of the program, 60 awards were made for a total expenditure of $1.2 million. With the introduction of special support for management studies in 1980-81, the level of support increased to $1.6 million and 89 awards were made. In the following three years the supplementary funds permitted the introduction of five new programs, generating a considerable increase in the level of demand for Strategic Grants. In 1982-83, 221 awards were made, totalling $5.2 million. In the 1983-84 competition, 666 applications were received, totalling $16.5 million; $7.2 million was awarded.

At the beginning of 1984-85 it was not clear that the additional $3.9 million which had been allocated to Strategic Grants in each of the previous two years, would be renewed. This had an immediate and dramatic effect on the academic community, as can be seen in Tables 1 and 2. The number of applications received that year declined to 406. Two hundred and thirty-two new awards were made, for a total budget of $7.1 million. Demand was, nevertheless, still higher than in the 1982-83 fiscal year, indicating that interest in the program was sustained notwithstanding the uncertain budgetary situation.

Following is a review of the different Strategic Grants programs, with illustrations of the additional activities supported since 1981-82.

Research Centres on Population Aging

After the initial success of the Population Aging program in stimulating interest and high-quality research during its first two years, the Council introduced a new program to support research centres to encourage multidisciplinary research on this theme. The centres program is intended to do more than assist multidisciplinary work, however. Centres also serve as information clearing houses, assist in disseminating research results, provide a focus for regional networks of researchers, and train graduate students and other people wishing to do research in population aging.

In 1981-82, the Council awarded three-year grants for centres at the University of Manitoba and Simon Fraser University. In the following year similar awards were made to the University of Toronto and the University of Guelph, and in 1983-84 the Université de Moncton received an institutional award. No further applications are being considered under this program pending the decision on the Council's new Five-Year Plan with its more comprehensive proposal for funding research centres on issues of national importance.

Table 1

Social Sciences and Humanities Research Council
Strategic Grants Program
Applications and Awards
1979-80 to 1984-85

| | 1979-80 | | 1980-81 | | 1981-82 | | 1982-83 | | 1983-84 | | 1984-85 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Applications | Awards | Applications | Awards | Applications | Awards | Applications | Awards | Applications | Awards | Applications | Awards (New) |
| Population Aging | 103 | 30 | 60 | 39 | 72 | 44 | 56 | 28 | 81 | 45 | 33 | 20 |
| Research Resources | 53 | 29 | 40 | 31 | 37 | 31 | 41 | 32 | 40 | 40 | 49 | 38 |
| Management Research | - | - | 43 | 18 | 51 | 34 | 68 | 53 | 52 | 39 | 35 | 29 |
| Small Universities | - | - | - | - | 21 | 20 | 21 | 19 | 20 | 20 | 20 | 20 |
| Canadian Studies Research Tools | - | - | - | - | 40 | 18 | 73 | 50 | 91 | 54 | 122 | 54 |
| Human Context of Science and Technology | - | - | - | - | 37 | 22 | 30 | 20 | 51 | 28 | 29 | 18 |
| Family and the Socialization of Children | - | - | - | - | 14 | 6 | 27 | 19 | 35 | 18 | 24 | 15 |
| Women and Work | - | - | - | - | - | - | - | - | 124 | 57 | 49 | 20 |
| Managing the Organization | - | - | - | - | - | - | - | - | 172 | 67 | 45 | 18 |
| | 156 | 59 | 143 | 88 | 272 | 175 | 316 | 221 | 666 | 368 | 406 | 232 |

Table 2

Social Sciences and Humanities Research Council
Strategic Grants Program
Dollars Requested and Awarded
1979-80 to 1984-85
(in thousands of current dollars)

| | 1979-80 | | 1980-81 | | 1981-82 | | 1982-83 | | 1983-84 | | 1984-85 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Applications | Awards | Applications | Awards | Applications | Awards | Applications | Awards | Applications | Awards | Applications | Awards |
| Population Aging | 3,001 | 706 | 1,645 | 788 | 2,057 | 1,086 | 1,592 | 859 | 3,595 | 1,379 | 1,520 | 1,217 |
| Research Resources | 1,557 | 481 | 897 | 621 | 781 | 575 | 1,188 | 670 | 857 | 710 | 1,086 | 800 |
| Management Research | - | - | 513 | 199 | 882 | 565 | 1,302 | 1,003 | 1,109 | 830 | 785 | 534 |
| Small Universities | - | - | - | - | 525 | 422 | 515 | 437 | 496 | 454 | 550 | 550 |
| Canadian Studies Research Tools | - | - | - | - | 1,686 | 573 | 2,987 | 1,451 | 3,438 | 1,457 | 5,080 | 1,848 |
| Human Context of Science and Technology | - | - | - | - | 554 | 116 | 707 | 274 | 1,558 | 717 | 825 | 586 |
| Family and the Socialization of Children | - | - | - | - | 430 | 144 | 1,170 | 525 | 1,043 | 373 | 758 | 663 |
| Women and Work | - | - | - | - | - | - | - | - | 2,364 | 752 | 1,413 | 648 |
| Managing the Organization | - | - | - | - | - | - | - | - | 1,993 | 517 | 912 | 314 |
| | 4,558 | 1,187 | 3,055 | 1,608 | 6,915 | 3,481 | 9,461 | 5,219 | 16,453 | 7,189 | 12,929 | 7,160 |

## The Family and the Socialization of Children

There has been steady demand for support under this program. In the first year, 14 applications were received and six awards were made for a total expenditure of $143,000. Over the next three years, requests numbered 27, 35 and 24 respectively, with a total budget of $663,000 administered in the last fiscal year (1984-85) to cover the 15 new awards made, and renewals from previous years.

The following are typical examples of the kinds of issues addressed under this program:

- The step-family is rapidly becoming a prominent family form in Canadian society, making up an estimated 10 per cent to 15 per cent of all families today. Few studies have been done on step-family structure and adjustment, according to Lillian M. Esses of the University of Manitoba Faculty of Psychology. She plans to study and compare step-parents and natural parents to determine their perceptions of their role, the ideal parent role, and the ideal step-parent role. Her main goal is to test the clinical claim that step-parents have greater role definition problems than natural parents, with resulting family stress and more problems for their children.

- A seed money grant was awarded to Howard Irving of the University of Toronto Faculty of Social Work to develop a study on "sole and joint custody". Children of divorced parents may experience varying degrees of stress from either joint custody or sole custody arrangements, depending on the age or particular problems of the child. Professor Irving maintains that there are no Canadian data on the effects on parents and children of either arrangement and that his study would be among few examining the complex process of selecting either option. It would also be of practical importance both to social workers and to the courts in these proceedings.

- A three year grant was recently awarded to Jean Dumas at the University of Western Ontario to study the socialization of children in multi-problem families.

## The Human Context of Science and Technology

This program was introduced at the same time as the program to support research on the Family and the Socialization of Children.During the four years of its existence there has been a steady increase in the volume of activity supported. In the first year, requests totalled $579,000; in the 1983-84 competition, demand reached a high of $1.5 million, and then dropped to $825,000 in 1984-85.

Research supported under this theme addresses a broad range of the ethical, social and cultural implications of science and technology in contemporary Canadian society. Following are two examples:

- A research project entitled, "The New Technology and the Workplace", looks at what we all think when microprocessors and computer technology invade our offices and take over what we had thought were immutable systems. Donald Nightingale, with Bryan Downie, John Gordon and Lloyd Peppard of the Queen's University School of Business, are examining the effects of the new technology on the nature and character of work, the way organizations are designed and managed, and labour-management relations. They are looking at the feasibility (in economic and engineering terms) of designing work systems that incorporate "quality of life" principles; analyzing the reports of organizations such as the Economic Council of Canada that predict employment patterns and economic growth; comparing types of organizations that employ conventional and new technology; and examining public policy alternatives that will ensure the new technology is used to enhance our lives.

- David J. Roy, director of the Centre for Bioethics in the Clinical Research Institute of Montreal, received funding to hold a workshop in the spring of 1983 on "The Reproductive Technologies: Social Ethics and Public Policy Responses". Specialists examined technologies such as laboratory fertilization, embryo transfer and so-called surrogate motherhood, and the host of ethical, social and legal questions that arise from the use of these techniques. One of the objectives of the workshop was to identify the social ethics principles required in forming reasoned public policy responses to the issues.

Managing the Canadian Organization

While the Council introduced programs to increase the supply of management faculty and upgrade their research skills in 1980-81, additional funding provided the following year was used to implement a multidisciplinary research program on "Managing the Organization in Canada". The first applications under the new program were received in the summer of 1983. They numbered 172 proposals and 67 awards were made for a budget of $517,000. In line with the uniform effect of budgetary uncertainty on the strategic programs in 1984-85, applications declined to 45, and 18 new awards were made, totalling $314,000.

The following list of projects illustrates the range of issues proposed under this program:

- entrepreneurship and innovation in smaller Canadian high technology firms;

- factors affecting trade and investment between Canada and the European Community;

- competition facing small and medium-sized Canadian businesses in export market development;

- the impact of computerization on the internal structure of Canadian organizations; and

- effects of changes in computing and communications on decision-making in the Canadian pension fund management industry.

## Aid to Small Universities

Under the Aid to Small Universities program, universities were invited to submit proposals which would meet their particular needs. The following examples give an idea of the type of needs the program is helping to meet.

- The Collège universitaire de St-Boniface is receiving Council funds for its Centre d'Études Franco-canadiennes de l'Ouest. The Centre's projects include: indexing the journals Le Manitoba (1881-1925) and Le Métis (1871-1881) which provide sources of information for researchers on politics, education and history of the area; preparing histories of the College (founded in 1818), of the Association d'Éducation au Manitoba and the Association catholique de la jeunesse canadienne, and undertaking studies of francophone writers and artists of the Canadian West.

- Bishop's University, Lennoxville, is establishing a centre to promote research on the eastern townships of Quebec. Studies will concentrate on regional literature, history, arts, language, social structures, settlement, economy and related topics, with particular emphasis on anglophone contributions in these fields and anglophone/francophone contact and interaction.

## Canadian Studies Research Tools

A new program to help ensure a strong, well-developed and coordinated infrastructure of resources for research was introduced in 1981. An enormous response greeted this initiative. In the first year, requests totalled over $1.7 million and in the 1983-84 competition new requests exceeded $3.4 million. With a budget of only $1.5 million for the program, many deserving projects could not be funded. This was the one program which was unaffected by the pessimistic news of 1984-85: applications went on to reach a new high of $5 million. Again, a budget of only $1.8 million meant that many had to be turned away.

A broad range of activities, such as those listed below, have been supported under the program.

- In one of the most valuable historical finds in years, two Halifax researchers, Patrick O'Neill and John Ettlinger, of Dalhousie and Mount Saint Vincent Universities, have uncovered a treasure of turn-of-the-century Canadiana which had been sent to Britain between 1897 and 1924 and tucked away in old files and cabinets in London. The originals of these materials in Canada had been destroyed or lost through fire. With a grant from the Council, the team will collect and catalogue the collection which includes books, photographs, music, maps, and miscellaneous trade material.

- Carleton University's Social Science Data Archives is producing an inventory of machine-readable data on Canada's Native peoples, which will assist researchers in anthropology, sociology, economics, political science and geography. Until now, no inventories have existed of machine-readable data that can be used by researchers who need to go beyond published materials. An interim report has been received by the Council which shows the great range of this material.

Women and Work

The Council launched the new program to support research on Women and Work in 1983-84. The initial response was overwhelming. A budget of $280,000 had been allocated for the program. In the first competition, 124 applications were received with total requests exceeding $2.3 million, and the budget was increased to $752,000. In the second year applications dropped to 49, with 20 new awards made for a budget total of $648,000 in grants. The following topics illustrate the kind of research that is being proposed under this new theme:

- stress factors related to dual careers of women;

- the role of women in the development of regional economies;

- women and unemployment insurance policy;

- women and work and affirmative action;

- women entrepreneurs;

- career opportunities, stratification and job satisfaction in professions;

- changes in the work and status of northern Dene women; and

- historical perspectives of inequality.

## 5. Program Evaluation

In keeping with government policy, the Council's strategic thrust has been subject to evaluation. Three evaluation studies of strategic programs have so far been commissioned by the Council.

### Population Aging

Several sub-programs are supported within this theme: research grants, reorientation fellowships, research workshops, research tools, and institutional grants, including support to visiting professors. The Council commissioned Price Waterhouse Associates to evaluate these efforts and their report was received in March 1984, approximately five years after the inception of the program.

Recognizing the goal of achieving a higher level of research activity in this area of national concern, the authors focused on the question of whether the program had stimulated a critical level of research on population aging. While noting some difficulties with the specification of the program objectives, the report is nevertheless highly favourable. To quote from the report:

> The study found that the program had made a major contribution toward achieving a critical mass of research in population aging. As a result of the program, more research was being done and more researchers were active in the field. Many researchers had changed their research focus to population aging. Further, there was evidence that the program had contributed to raising the credibility of population aging as a legitimate area for academic endeavour.

Noting the difficulty of defining "critical mass", the authors could not determine whether the program had fulfilled its mission, or even what level of research is required before momentum becomes self-sustaining. They do suggest, however, that in order to sustain the present level of research activity, the Special Research Grants sub-program should be continued.

Population Aging Research Centres are funded for up to six years in gradually declining annual amounts. The authors comment that the centres "had succeeded in increasing interest in population aging research and had encouraged researchers to develop research projects in this area." Concern is expressed about the independent long-term financial viability of such centres, however, if SSHRC funds are phased out; furthermore, the authors suggest that cutbacks in direct research support for aging might also jeopardize the success of the centres.

### Support to Specialized Collections Program

The program is designed to allow university libraries to acquire materials in the social sciences and humanities for collections of national or regional importance. The evaluation of the program

was carried out by Touchstone Policy and Program Evaluation Inc. and was received by the Council in August 1984. The authors begin by noting the continuing constraints under which university libraries are operating.

The study's findings suggest that Council support under this program has allowed acquisitions and development which would not otherwise have been possible with existing library budgets, and that therefore the program is achieving its primary objective. Because funding effects are incremental, the authors note that it may be too early to measure "development or consolidation" of collections.

The authors recommend continued and expanded support under this program along with efforts to improve accessibility and dissemination of information in order to strengthen the link between specialized collections and related research.

The Development of Management Research

A report by Ahamed Consultants Inc., commissioned in 1985 by the Council, reviews three sub-programs in the area of management: doctoral completion fellowships, management reorientation fellowships and summer methodology workshops.

Given the magnitude of the problem of increasing the supply of management faculty and upgrading their research skills, a major finding of the study is that the program was underfunded, and problematic with respect to the mechanisms chosen to address these problems. For example, the authors point out that management reorientation fellowships were sometimes awarded to applicants whose previous work was not closely related to management and administration, and that it was unlikely such individuals could be retrained in only one or two years.

The report therefore recommends more cost-effectiveness for the Council's limited resources. The authors suggest that doctoral completion and management reorientation fellowships be discontinued. Instead, doctoral fellowships in management should be given special attention and prominence within the regular fellowships program by providing additional funds for that discipline, perhaps targeted to areas of critical shortage.

The summer workshops were found to be useful tools for improving research skills, and the authors recommend the continuation of this program with sharpened focus.

The Council has yet to discuss and act on this evaluation report.

It seems clear from these evaluation reports that the Council's strategic programs are achieving most of their objectives. All three reports emphasize the need for continued funding in the areas reviewed, and recommend the extension of programs either in their existing or in modified form.

## 6. Conclusion

Strategic research is now firmly established as one of the principal activities of the Council. In the first six years, strategic research has been developed along two major lines: support of thematic research on particular problem areas, and funding to build up research infrastructure and address regional imbalances in research capability in the human sciences.

Through the use of a variety of consultative approaches, the Council has worked closely with the research community to develop its Strategic Grants programs. Thanks to this consultative activity, the programs reflect the needs of researchers and focus on the problem areas identified.

Additional funding received in 1981-82 has enabled the Council to expand the Strategic Grants program to provide both infrastructure and research support. Careful monitoring of the programs and consultation with the research community will ensure that Strategic Grants continue to meet the needs of research in the national interest.

## HUMAN RESOURCES REQUIREMENTS

Recent studies and analyses undertaken by the SSHRC and studies such as Some Questions of Balance, by Professor Thomas Symons and James Page; Ontario Universities: Options and Futures, by the Bovey Commission; the Science Council report, University Research in Jeopardy; and a preliminary report, Doctoral Degrees in the Humanities and Social Sciences, by Max von Zur-Muehlen, all underline a growing problem with the deployment of Canada's most highly qualified human resources. One consequence of the impact of provincial government funding on universities has been a reduction in the number of full-time faculty positions available to recent doctoral graduates. The net result is a snowballing effect which could threaten social sciences and humanities research in Canada altogether. The following sections document briefly the factors leading to the loss of a generation of researchers in Canada, the first effects of which are already evident.

Assuming that the decrease in birth rates would lead to lower enrolments in the late 1970s and throughout the 1980s, governments cut back on direct commitments to universities. Hindsight shows that the forecasts were wrong: enrolments in 1984-85 are at an all-time high, both for universities and for the social sciences and humanities.

At the same time, university faculty in the social sciences and humanities, largely hired in the spurt of university growth of the 1960s and early 1970s, are clustered in a narrow age cohort. In 1982, nearly 60 per cent of full-time teaching staff in the human sciences at Canadian universities were aged between 35 and 49. This means that relatively few faculty will retire between now and 1990. The rate of retirement will then accelerate tremendously over the following 15 years. These trends are illustrated by figures in the body of the main text. Table 1 shows the trend in median age of faculty from 1970 to 1992.

If current trends continue, projected by Statistics Canada, the Ministry of State for Science and Technology (MOSST) and, recently confirmed in the Symons-Page report, demand for researchers in the human sciences will begin to increase steadily from about 1990.

In the next decade the curve rises rapidly. An analysis by Max von Zur-Muehlen, which appeared in Some Questions of Balance, suggests a higher replacement rate from 1983 to 1991 than projected by MOSST (Table 2).

TABLE 1

Median Age of Full-time University Teachers by Teaching Fields

| Teaching Field | 1970-71 | 1975-76 | 1976-77 | 1977-78 | 1978-79 | 1979-80 | 1980-81 | 1981-82 | 1982-83 |
|---|---|---|---|---|---|---|---|---|---|
| Education | 39.1 | 40.2 | 41.0 | 41.2 | 42.1 | 42.2 | 43.2 | 44.1 | 44.2 |
| Fine and Applied Arts | 37.2 | 39.2 | 40.1 | 40.2 | 41.1 | 41.2 | 42.1 | 43.0 | 43.2 |
| Humanities | 37.2 | 41.0 | 41.2 | 42.1 | 42.2 | 43.2 | 44.1 | 45.0 | 45.2 |
| Social Sciences | 34.2 | 37.1 | 37.2 | 38.0 | 38.2 | 39.1 | 40.1 | 40.2 | 41.1 |

Source: Statistics Canada.

TABLE 2

PROJECTED REPLACEMENT POSITIONS AVAILABLE
FOR FULL-TIME UNIVERSITY TEACHERS, 1983-1991

| Year | Number of Retirements | Retirement Rate (%) | Mortality | Mortality rate (%) | Number of Replacements | Replacement Rate (%) |
|---|---|---|---|---|---|---|
| 1983 | 265 | 0.8 | 165 | 0.5 | 430 | 1.3 |
| 1984 | 309 | 0.9 | 165 | 0.5 | 474 | 1.4 |
| 1985 | 388 | 1.2 | 165 | 0.5 | 553 | 1.7 |
| 1986 | 445 | 1.4 | 165 | 0.5 | 610 | 1.9 |
| 1987 | 474 | 1.4 | 165 | 0.5 | 639 | 1.9 |
| 1988 | 493 | 1.5 | 165 | 0.5 | 658 | 2.0 |
| 1989 | 555 | 1.7 | 165 | 0.5 | 720 | 2.2 |
| 1990 | 597 | 1.8 | 165 | 0.5 | 762 | 2.3 |
| 1991 | 650 | 1.9 | 165 | 0.5 | 815 | 2.4 |

Note: This projection is based on a stock figure of 32,950 full-time university teachers in 1980-81 and assumes zero net mobility. The mortality rate is an approximation, based on the median age of full-time faculty in 1980 and mortality rates for that age group in actuarial tables. The stock figure is held constant for the projection period, an assumption which needs to be qualified if the universities, for financial, demographic and other reasons, reduce the total number of full-time faculty over the next 9 years.

Source: Max von Zur-Muehlen. The changing profile of full-time faculty at Canadian universities. Ottawa: Statistics Canada, 1983. Table 7, p. 15.

Table 3 shows the number of university faculty in each of the four fields covered by the SSHRC, by individual year of age, from 47 to 70. The table is based on 1982-83 data. This group represents the major cohort of researchers who will retire or otherwise leave the university system between now and the year 2001. An analysis of these figures has been undertaken, taking into account mortality rates and researcher mobility. Based on this analysis the SSHRC estimates that of the university researchers in the human sciences who will retire, or otherwise leave the system, from 1981 to 1990 about 2,400 will be replaced. We are now at the low point in the replacement curve; few permanent positions will be available between now and the end of the decade.

The corresponding number for the first half of the next decade (1991-95) is 2,100, while almost 3,000 are likely to be replaced during the second half of that decade. If the trend continues, 3,600 will have to be replaced between the years 2001 and 2005. From 1991 to 2005, therefore, about 8,700 new university researchers will be needed even if there is no expansion in the university system. According to current projections, doctoral graduates in the human sciences available for work in universities will not match this demand. It is in part to meet this shortfall of 3,000 to 3,500 that the SSHRC proposes to take action now.

TABLE 3

UNIVERSITY STAFF FOR SELECTED FIELDS
BY INDIVIDUAL YEAR OF AGE, 1982

| | EDUCATION | FINE & APPLIED ARTS | HUMANITIES & RELATED | SOCIAL SCIENCES AND RELATED | TOTAL |
|---|---|---|---|---|---|
| Over 70 | 1 | 1 | 5 | 2 | 9 |
| 70 | - | - | 1 | 2 | 3 |
| 69 | - | - | - | 4 | 4 |
| 68 | - | - | 4 | 2 | 6 |
| 67 | 4 | - | 7 | 4 | 15 |
| 66 | 2 | 2 | 7 | 14 | 25 |
| 65 | 8 | 6 | 26 | 32 | 72 |
| 64 | 20 | 10 | 63 | 50 | 143 |
| 63 | 19 | 14 | 68 | 59 | 160 |
| 62 | 33 | 16 | 74 | 75 | 198 |
| 61 | 44 | 12 | 93 | 98 | 247 |
| 60 | 46 | 22 | 94 | 95 | 257 |
| 59 | 55 | 21 | 83 | 97 | 256 |
| 58 | 45 | 20 | 116 | 112 | 293 |
| 57 | 64 | 20 | 132 | 119 | 335 |
| 56 | 72 | 29 | 119 | 117 | 337 |
| 55 | 72 | 36 | 134 | 119 | 361 |
| 54 | 94 | 37 | 142 | 162 | 435 |
| 53 | 86 | 45 | 153 | 150 | 434 |
| 52 | 107 | 39 | 138 | 164 | 438 |
| 51 | 102 | 45 | 205 | 196 | 548 |
| 50 | 118 | 38 | 220 | 174 | 550 |
| 49 | 115 | 46 | 199 | 198 | 558 |
| 48 | 105 | 53 | 202 | 245 | 605 |
| 47 | 108 | 43 | 222 | 245 | 618 |
| Non-response | 5 | 2 | 5 | 11 | 23 |
| TOTAL | 1,325 | 557 | 2,512 | 2,546 | 6,940 |

Source: Statistics Canada.

All of the above estimates are based on a compulsory retirement at age 65. Using data provided by the University of Manitoba, the Bovey Commission in Ontario estimated the changes that might occur in the pattern of retirements when the provisions of the Charter of Rights come into effect in April 1985.

TABLE 4

- 33.3% of all faculty eligible to do so retire at or prior to age 65
- 16.7% of all faculty eligible to retire at age 65 retire at age 66
- 12.5% of all faculty eligible to retire at age 65 retire at age 67
- 12.5% of all faculty eligible to retire at age 65 retire at age 68
- 12.5% of all faculty eligible to retire at age 65 retire at age 69
- 12.5% of all faculty eligible to retire at age 65 retire at age 70

These changes will exacerbate the short-term situation by reducing the number of replacement positions available up to 1990. Thereafter the situation will "normalize" with an effective lag in retirements of approximately two years.

On the demand side there is evidence of a growing need for university faculty in the humanities and social sciences during the period 1991 to 2005. Employment figures from the current crop of PhD graduates show that a decreasing proportion are pursuing a university career, and that those who try to establish themselves as researchers are discouraged by the limited number of permanent openings.

The question remains whether, on the supply side, universities will be producing sufficient doctoral graduates in the future to meet the demand created by the retirement bulge.

Enrolments have increased generally over the past decade, and projections from all sources indicate that this trend will continue at the graduate level. The last of the baby boom students are now entering university and the 1984-85 undergraduate enrolments are at an all-time high.

The two major factors in predicting trends in university enrolment, demographic tendencies and participation rates, are highly influenced by public policy. Of the two, demographic factors are more easily forecast. All those who will be in the 18-24 age group[1] by the year 2001 have already been born. Thus, any change in the existing population can only be caused by

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[1] In the USA the 18-24 year age group is most commonly used as a relevant cohort. Ninety per cent of male and female undergraduates in Ontario were in this group. Participation Rates and Future Enrolment in Ontario Universities, Council of Ontario Universities, 1983, p. 3.

mortality, emigration, and immigration. As is noted later, the first two are negligible and easily balanced by the third.[2]

Table 5 shows projected population figures for the 18-24 age group from 1961 to 2006. (See also Graph 1.)

TABLE 5

18-24 population
1961 to 2006

(thousands)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1961 | 1,712.6 | 1973 | 2,799.2 | 1985 | 3,223.1 | 1997 | 2,551.8 |
| 1962 | 1,770.1 | 1974 | 2,891.6 | 1986 | 3,131.0 | 1998 | 2,563.9 |
| 1963 | 1,848.8 | 1975 | 2,975.6 | 1987 | 3,042.0 | 1999 | 2,585.4 |
| 1964 | 1,941.7 | 1976 | 3,046.6 | 1988 | 2,951.1 | 2000 | 2,596.8 |
| 1965 | 2,039.5 | 1977 | 3,119.2 | 1989 | 2,864.4 | 2001 | 2,606.3 |
| 1966 | 2,191.7 | 1978 | 3,180.9 | 1990 | 2,770.5 | 2002 | 2,622.4 |
| 1967 | 2,288.8 | 1979 | 3,226.6 | 1991 | 2,702.6 | 2003 | 2,640.2 |
| 1968 | 2,413.8 | 1980 | 3,225.2 | 1992 | 2,656.8 | 2004 | 2,650.7 |
| 1969 | 2,522.2 | 1981 | 3,294.4 | 1993 | 2,636.5 | 2005 | 2,645.7 |
| 1970 | 2,623.4 | 1982 | 3,324.7 | 1994 | 2,618.4 | 2006 | 2,635.0 |
| 1971 | 2,688.8 | 1983 | 3,331.1 | 1995 | 2,591.0 | | |
| 1972 | 2,729.7 | 1984 | 3,297.5 | 1996 | 2,559.2 | | |

Source: Statistics Canada Population Projections No. FF 14, LC.

The second factor in university enrolment is participation.[3] The participation rate is determined by a more complex range of policy and social variables.[4]

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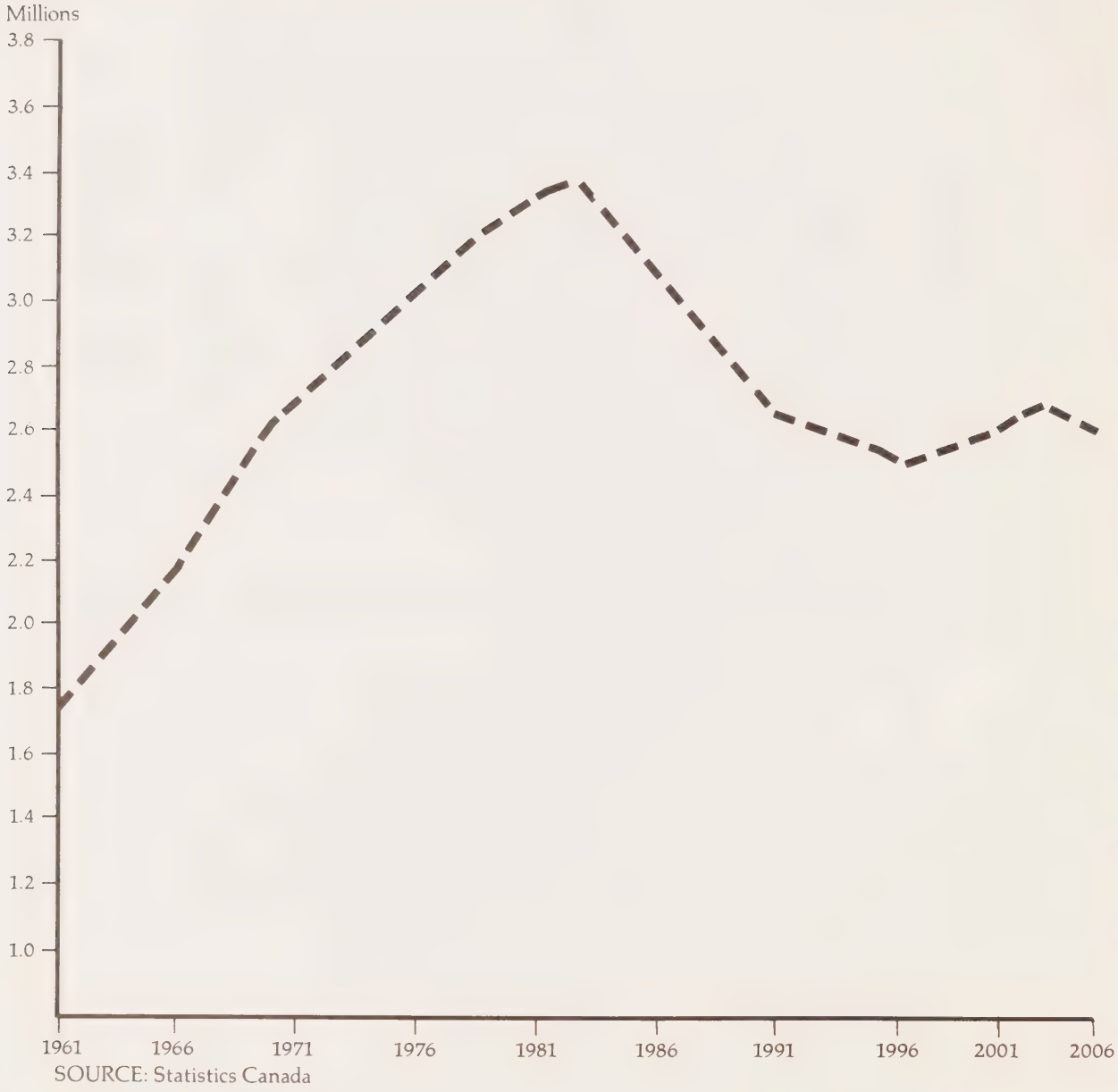
2 Net immigration is defined as immigration less emigration. In quantitative terms the emigration figure is negligible -- the immigration figure is basically a policy variable. Recent indications are that immigration will not be an increasing factor in the foreseeable future and it has not loomed large in the calculations that follow.

3 The participation rate is defined as the number of persons enrolled in universities expressed as a percentage of the cohort of persons aged 18-24.

4 For a fuller discussion of these factors, see A.L. Darling's "The Impact of the Participation Rate - Whatever it is - on University Enrolment," Canadian Journal of Higher Education 10, 1980.

**Graph 1**
**Population aged 18-24, Canada, 1961 to 2006**
**Actual from 1961 to 1981, projected to 2006**




SOURCE: Statistics Canada

A brief summary of the most important variables follows.

1. Provincial post-secondary education policy. This includes decisions on tuition fees and on student loans, and limits on the number of spaces in certain disciplines as exemplified in the recommendations of the Bovey Commission in Ontario.[5]

2. Provincial policy on secondary education. When Ontario decides to make Grade 13 optional this will have a significant impact on the university population for 3 to 4 years.[6]

3. Economic prospects. Economic prospects have contradictory influences on participation rates. Greater disposable income means that the "opportunity cost of university consumption" has declined. On the other hand, increased unemployment rates, especially for the young, may well have the effect of increasing the retention rates.[7]

4. The female participation rate. Women have been enrolling in universities in increasing numbers over the past two decades, although this trend has been slowed in the past few years. Whether the increase resumes or not will obviously affect the overall participation rate.[8]

5. Federal education policy with respect to education and research. Implementation of all or portions of the A.W. Johnson report on EPF payments, or the Wright Report on federal efforts to promote technological development in Canada, could have a profound effect on the allocation of university resources, including the relative balance of research and teaching functions.

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5 The recent report of the Ontario Royal Commission on the Future Development of the Universities of Ontario.

6 This proposal is contained in The Renewal of Secondary Education in Ontario: Response to the Report of the Secondary Education Review Project (Toronto: Ministry of Education, November 1982), referred to as "ROSE".

7 A brief discussion of the economic influences on participation rates is to be found in University Enrolment Projections to 2000, MOSST Background Paper, Ministry of State for Science and Technology, Ottawa, 1983.

8 Ibid.

6. The relative importance of full and part-time students. Some experts contend that a decrease in participation rates of undergraduates in the 18-24 age group will be largely counterbalanced by an increase in participation by older students and part-time students.[9]

The above list is but a brief summary of the different considerations underlying fluctuations in the participation rate. What is remarkable, therefore, is that the net result has varied little over the past 15 years.

Female participation rates have risen considerably from 7.3 per cent in 1967 to around 10 per cent in 1980. The participation rates for males, on the other hand, have fallen somewhat, leaving the total participation rate rather steady around 11.5 per cent since 1967.

Secretary of State

Recently the Secretary of State has asked Statistics Canada to do several projections of future enrolment figures for Canada, based on numerous assumptions. The particular population cohort is the 18-21 age group, based on the contention that the 18-24 age group will be less relevant in the future.

Using the assumptions listed in Table 6, the Secretary of State projections appear in Graphs 2 and 3.[10]

Council of Ontario Universities[11]

The Council of Ontario Universities recently made its own projections for enrolment in Ontario universities. While the study is limited to Ontario, it is useful in that Ontario universities alone comprise almost 40 per cent of the total Canadian university population and a study of their projections may give some indications of the general trend.

The Ontario model made use of an age-specific enrolment model originally developed by MOSST. Specific consideration was given to the implications of a potential reform of the Ontario secondary school system, including the possible abolition of Grade 13 (ROSE).

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9 David K. Foot, "A Troubled Future?" in Financing Canadian Universities: For Whom and by Whom? (Toronto, 1981).

10 Based on projections for Secretary of State by Statistics Canada.

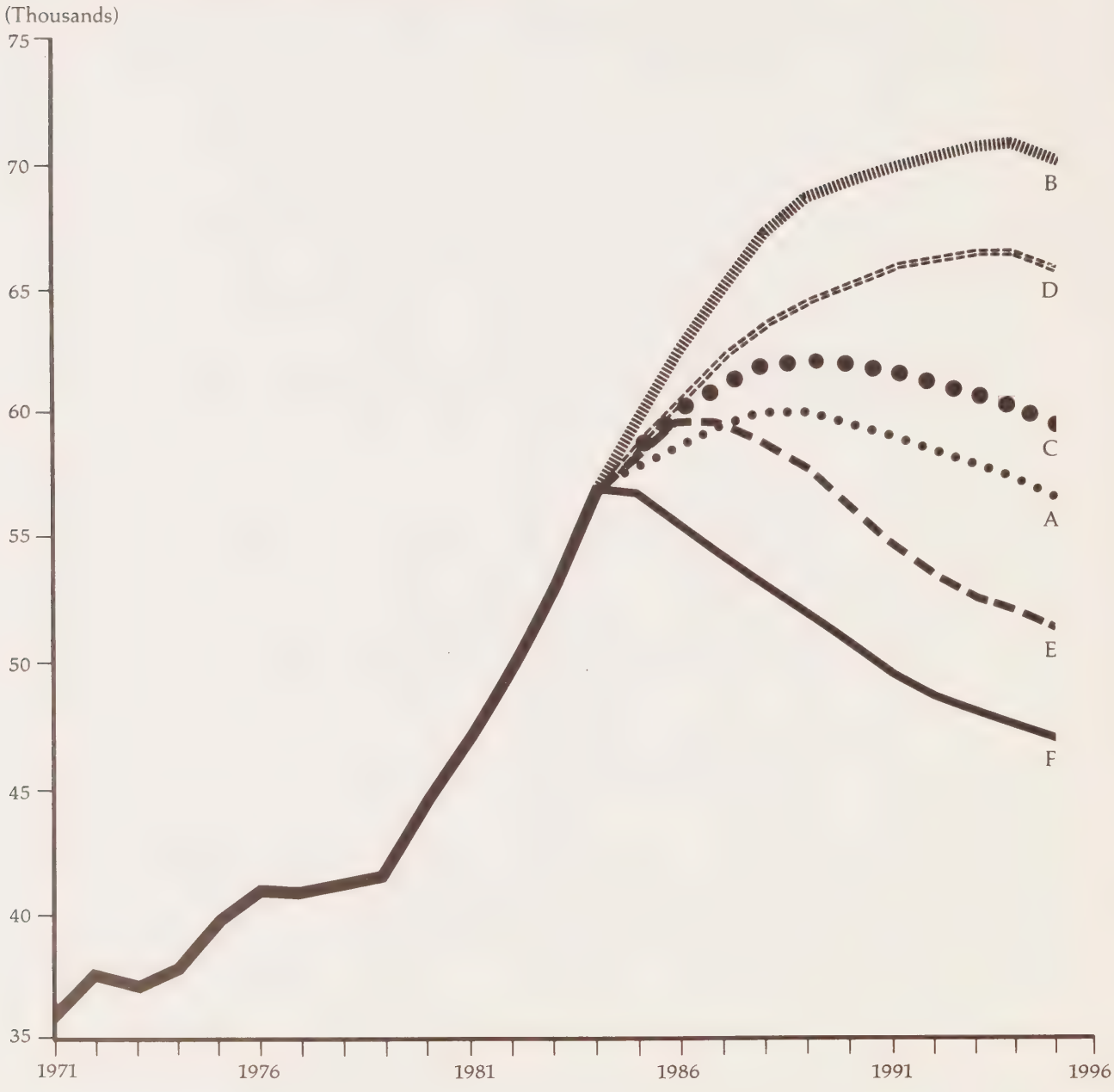
11 Council of Ontario Universities, Participation Rates and Future Enrolment in Ontario Universities, September 1983.

TABLE 6

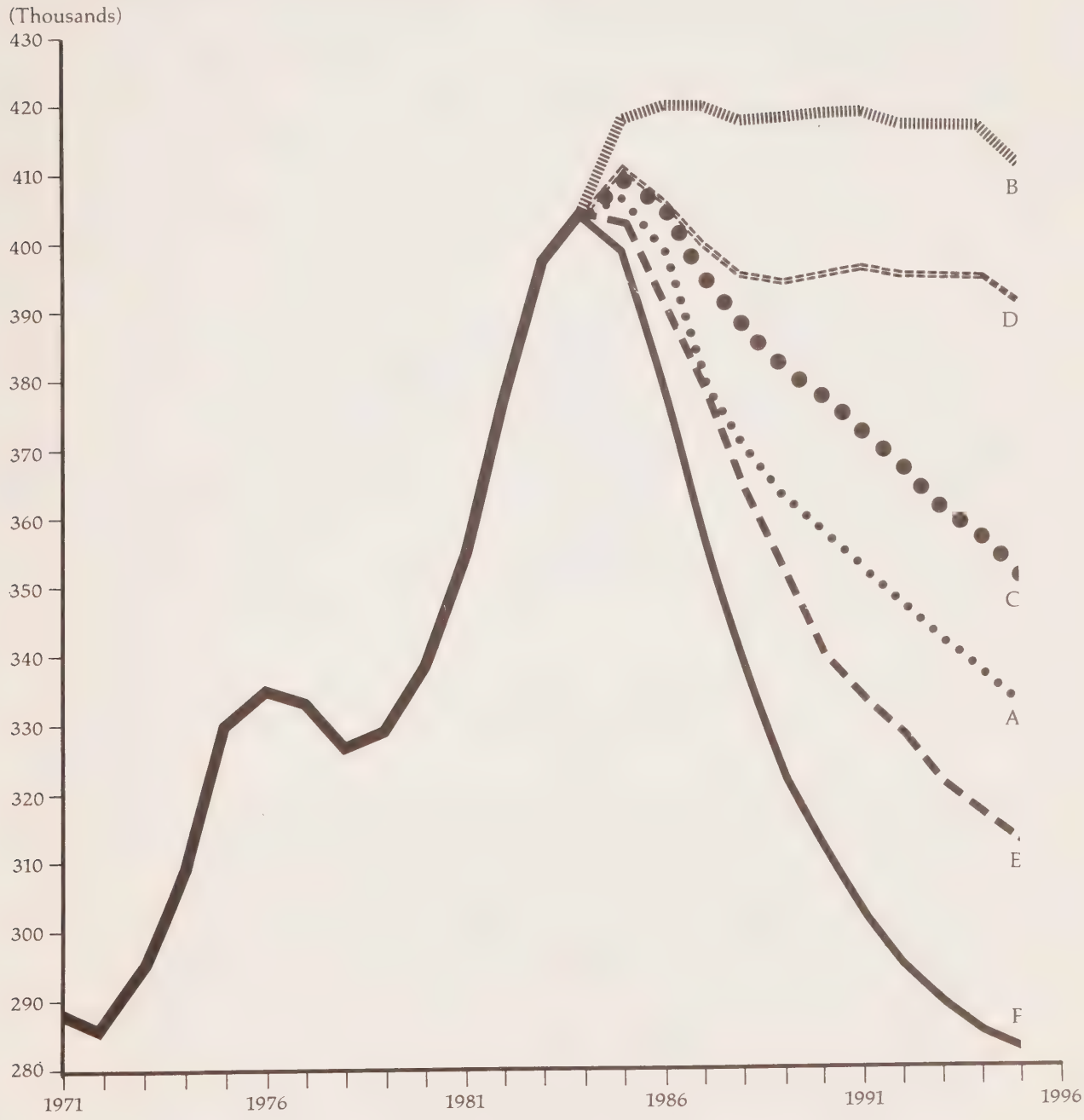
FULL-TIME UNIVERSITY ENROLMENT RATE ASSUMPTIONS

| PROJECTION | POPULATION PROJECTION | Male UNDERGRADUATE | Male GRADUATE | Female UNDERGRADUATE | Female GRADUATE |
|---|---|---|---|---|---|
| A | F14LC | Constant at estimated 1984-85 level | Constant at estimated 1984-85 level | Constant at estimated 1984-85 level | Constant at estimated 1984-85 level |
| B | F14LC | Strong increase in participation observed during the early 1980s assumed to continue to mid-1990s | Strong increase in participation observed during the early 1980s assumed to continue to the mid-1990s | Strong increase in participation observed during the early 1980s assumed to continue to the mid-1990s with female rate approaching that of males | Strong increase in participation observed during the early 1980s assumed to continue to the mid-1990s with the gap between male and female rates narrowing |
| C | F14LC | Small increase in 1985-86 and constant at that level thereafter | Small increase in participation to 1986-87 and constant at that level thereafter | Increase to male participation rate by early 1990s | Small increase in participation to mid-1990s |
| D | F14LC | Moderate increase in participation to mid-1990s | Moderate increase in participation to mid-1990s | Moderate increase to mid-1990s closing the gap between male and female participation | Moderate increase in participation to mid-1990s |
| E | F14LC | Small increase to 1986-87 followed by a decline to the 1982-83 level of participation by the mid-1990s (roughly 10% decline in participation) | Small increase to 1986-87 followed by a decline of roughly 10% to the mid-1990s | Small increase to 1986-87 followed by a decline in participation to the mid-1990s (roughly 10% decline in participation) | Small increase to 1986-87 followed by a decline of roughly 10% to the mid-1990s |
| F | F14LC | Decline to the rates observed in the late 1970s by the mid-1990s | Decline to the rates observed in the late 1970s by the mid-1990s | Decline to the rate observed in 1980-81 by the mid-1990s | Decline to the rates observed in 1980-81 by the mid-1990s |

## Graph 2
## Full-time University Graduate Enrolment

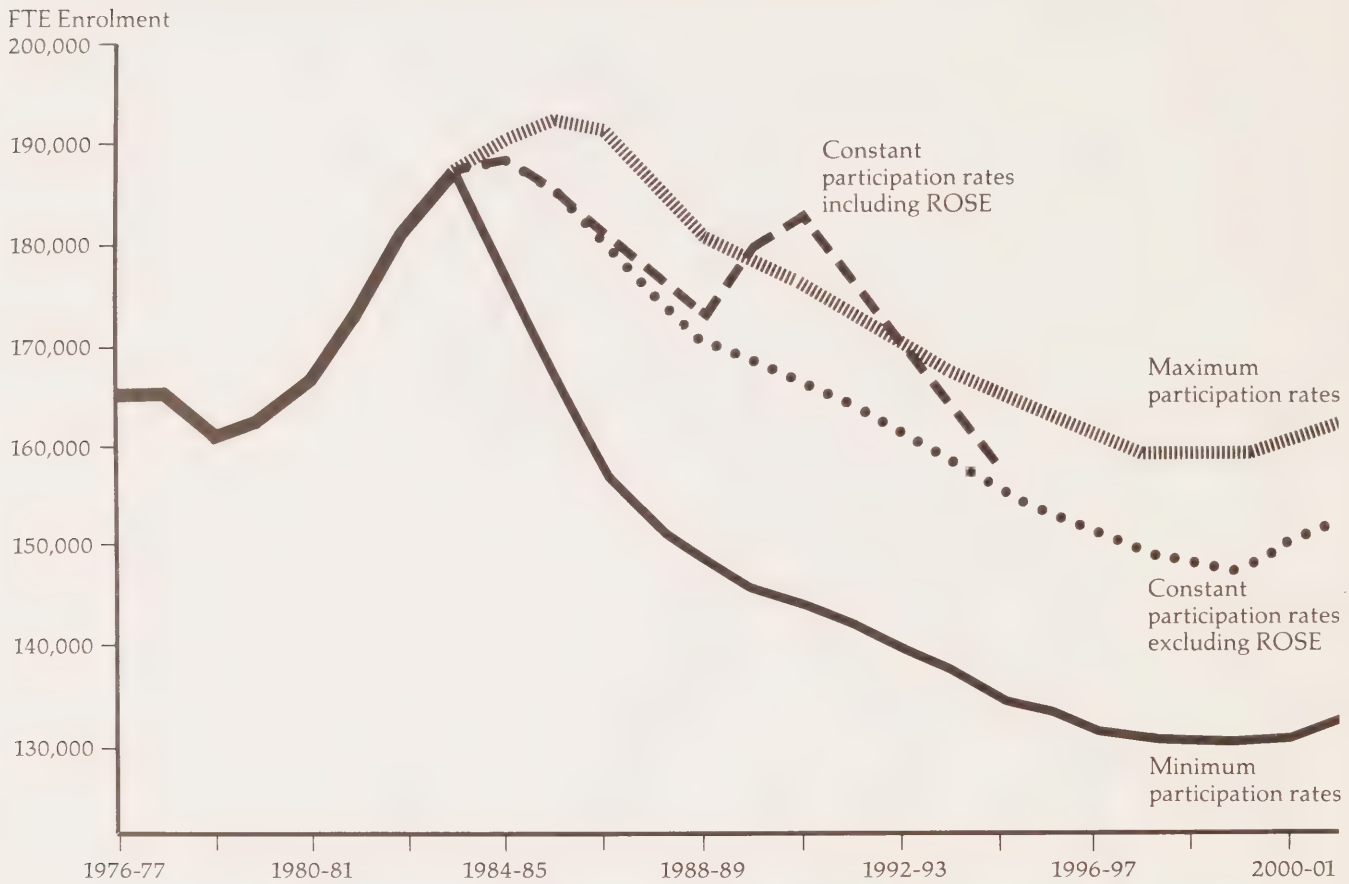


## Graph 3
## Full-time University Undergraduate Enrolment



Because the numbers involved include only Ontario populations, we have not included the tables showing the Council of Ontario Universities projections. Graph 4 shows a summary of full-time enrolment projections, with and without ROSE, and demonstrates the trend based on constant, minimum and maximum foreseeable participation rates.

Graph 4
Summary of Full-time Equivalent Enrolment in Ontario




All the projections cited indicate the same general trend for university enrolment. Full-time undergraduate enrolment reached a peak in 1984-85 and will gradually decline over the next decade. This is confirmed by our own calculations. The gradual but steady decline will be between 6 per cent and 20 per cent and will reach its lowest level by the mid 1990s. At that point undergraduate enrolment may remain steady or increase slightly.

At the graduate level, because of the time lags involved, enrolment will increase slightly to the end of this decade and then will gradually decrease during the following period. The actual production of degrees may not decline immediately in the social sciences, but in the humanities we have probably already reached the peak.

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The share of university enrolment of the humanities and social sciences is harder to predict. The general trend in the humanities is downwards and this will soon affect both graduate enrolments and degrees awarded. The current level of about 250 PhDs in the humanities appears to be a maximum. If the trend in enrolments continues, the size of humanities departments in Canadian universities will decline during the 1990s. In that case a smaller number of completed PhDs should not be considered unacceptable. It will remain necessary, at least, to maintain the current level of graduates within the research system or shortages will exist in the 1990s when the universities begin to replace their professoriate.

In the social sciences the number of doctorates will rise; this trend will continue until the 1990s. At that time, a gradual decrease toward the end of the decade can be expected.

This decline will become more evident as shifting patterns in graduate enrolment begin to make themselves felt in the proportion of PhDs awarded in the four major fields covered by the SSHRC. As Table 6 shows, there has been a gradual reduction in the proportion of doctoral and masters candidates in the humanities from 1972-73 to 1982-83, whereas the social sciences, education and fine arts have experienced a steady growth over the same period. At the doctoral level, humanities enrolment has dropped from 42 per cent of the 1972-73 total to 32 per cent in 1983-84.

Because of the time lag involved in obtaining a PhD, this shift has not been as evident in the degrees awarded (see Table 7). Over the next five years, however, the proportion of PhDs in the humanities should make up a considerably smaller part of the total.

TABLE 6

Growth in Full-time Doctoral Enrolments, 1972-73 to 1983-84

| | Education | Fine Arts | Humanities | Social Sciences | Total |
|---|---|---|---|---|---|
| 1972-73 | 656 | 54 | 2,107 | 2,153 | 4,970 |
| 1983-84 | 1,094 | 105 | 1,984 | 3,071 | 6,254 |
| Percentage change | 67% | 94% | -6% | 43% | 26% |

Growth in Full-time Masters Enrolments, 1972-73 to 1983-84

| | | | | | |
|---|---|---|---|---|---|
| 1972-73 | 1,902 | 307 | 4,067 | 6,872 | 13,148 |
| 1983-84 | 3,292 | 943 | 4,555 | 11,352 | 20,172 |
| Percentage change | 73% | 207% | 12% | 65% | 53% |

Source: Statistics Canada.

TABLE 7

Earned Doctoral Degrees (1973 to 1983)

| | Education | Fine Arts | Humanities | Social Sciences |
|---|---|---|---|---|
| 1973 | 122 | 5 | 228 | 290 |
| 1974 | 128 | 4 | 264 | 325 |
| 1975 | 172 | 7 | 277 | 372 |
| 1976 | 157 | 5 | 248 | 410 |
| 1977 | 173 | 11 | 256 | 357 |
| 1978 | 157 | 7 | 259 | 423 |
| 1979 | 193 | 11 | 291 | 397 |
| 1980 | 205 | 9 | 242 | 403 |
| 1981 | 203 | 7 | 285 | 427 |
| 1982 | 213 | 12 | 231 | 381 |
| 1983 | 189 | 12 | 245 | 385 |

Source: Statistics Canada.

Even though the number of PhDs awarded will probably increase over the coming five years, this by no means assures an adequate supply in the 1990s. Two factors are involved here. First, the projections show a peak in enrolments in 1991 with a rapid or gradual decline afterwards. Second, information on employment of PhDs indicates a growing trend to occupations outside the university sector. This may in part be due to the lack of employment opportunities in universities. Evidence of this is provided through the Census and surveys of graduate plans of PhD recipients carried out by Statistics Canada 1981-1983. Whereas in 1971 just over half the holders of PhDs were employed in universities, this proportion had dropped to under 40 per cent by 1981, according to an analysis of Census data (Table 8).

TABLE 8

Distribution (%) for Selected Occupations: 1971 and 1981

| Occupation | Master's | | Earned Doctorate | |
|---|---|---|---|---|
| | 1971 | 1981 | 1971 | 1981 |
| Managerial, administrative, etc. | 22.2 | 24.0 | 11.7 | 12.2 |
| Social sciences | 4.0 | 4.1 | 2.3 | 4.3 |
| Social work, etc. | 4.5 | 3.7 | 0.1 | 0.7 |
| Law & jurisprudence | 1.3 | 1.6 | 0.5 | 0.6 |
| Library, museum and other social sciences | 3.1 | 3.6 | 0.7 | 0.6 |
| Religion | 4.0 | 3.2 | 2.5 | 1.7 |
| University teaching, etc. | 10.9 | 5.7 | 50.7 | 38.5 |
| Elementary & secondary school teaching | 13.3 | 13.4 | 2.0 | 1.8 |
| Other teaching | 5.1 | 5.8 | 2.2 | 3.4 |
| Clerical | 3.9 | 3.4 | 0.6 | 1.0 |
| Other occupations | 27.8 | 31.7 | 26.5 | 35.2 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 |

Source: 1971 data: 1973 Highly Qualified Manpower Survey, Statistics Canada.
1981 data: Census data provided by Statistics Canada.

As shown in Table 9, the proportion of PhD graduates working in the university system varies according to the field of graduation. Over 60 per cent of humanities graduates list university teaching as their occupation immediately upon completing their PhDs. The similar proportion for the social sciences is just under 50 per cent, while in education it drops to just above 45 per cent. It is equally clear from this Table that the proportion of graduates holding contractually limited employment tends to increase with the proportion that hold university appointments.

Further evidence for this is presented in Table 10. Based on preliminary analyses of data collected in the 1984 National Graduate Survey by Statistics Canada, it shows that two-thirds of the temporary positions held two years after graduation are university appointments. The Table also supports the hypothesis that the further PhDs are from graduation, the more likely it is that they will have moved away from university careers. The PhD survey, which captures data at the time of graduation, reports that on average 52 per cent of graduates are engaged in university teaching. The National Graduate Survey, following up on students two years after graduation, indicates that this percentage has dropped to 47 per cent. The PhD survey shows contractually limited appointments at 43 per cent; this figure dropped to 26 per cent in the National Graduate Survey. The implication is clear: as postdoctoral fellowships run out and graduates become discouraged in their attempts to find a permanent place in universities, a gradual drift to other occupations begins.

Many of those working outside university are using their research training either directly or indirectly. A review of information from the National Graduate Survey suggests that half of those outside the university sector are engaged in research activity.

This finding is substantiated by the PhD survey which shows that 71 per cent of graduates have research-related jobs, and 52 per cent are teaching at universities.

It should not be expected that all new graduates are further additions to the labour market stock. An analysis of anticipated earnings of recent PhD graduates suggests that at least one-third of those who report themselves employed by universities had this employment well before they completed their degrees.

In conclusion, projections appear to indicate that of the 1,200 social sciences and humanities PhDs expected to graduate in 1991, about 500 will be employed in universities and perhaps 350 of these will be additions to the existing faculty. Should the current employment trends continue, these proportions could be even lower.

TABLE 9

EXPECTED OCCUPATIONAL GROUP AND TYPE AND DURATION OF APPOINTMENT OF DOCTORAL GRADUATES, BY FIELD OF STUDY

| EXPECTED OCCUPATION | TOTAL ALL FIELDS 1981 % | 1982 % | 1983 % | EDUCATION 1981 % | EDUCATION 1982 % | EDUCATION 1983 % | HUMANITIES AND FINE AND APP. ARTS 1981 % | HUMANITIES AND FINE AND APP. ARTS 1982 % | HUMANITIES AND FINE AND APP. ARTS 1983 % | SOCIAL SCIENCE 1981 % | SOCIAL SCIENCE 1982 % | SOCIA SCIENCE 1983 % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOTAL ALL OCCUPATIONS | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| UNIVERSITY TEACHING | 52.3 | 49.6 | 61.4 | 51.2 | 49.5 | 46.6 | 57.4 | 62.0 | 73.0 | 49.6 | 44.6 | 59.9 |
| COMMUNITY COLLEGE TEACHING | 7.0 | 2.0 | 3.4 | 6.1 | 2.8 | 4.1 | 15.5 | 6.0 | 4.9 | 2.3 | - | 2.3 |
| OTHER TEACHING AND ADMINISTRATION | 6.8 | 9.6 | 7.9 | 26.8 | 27.5 | 31.5 | 4.1 | 9.0 | 7.4 | 2.0 | 2.0 | .5 |
| TOTAL EDUCATION | 66.0 | 61.1 | 72.7 | 84.1 | 79.8 | 82.2 | 77.0 | 77.0 | 85.2 | 53.9 | 46.6 | 62.6 |
| ADMINISTRATION OTHER THAN EDUCATION | 3.9 | 5.4 | 2.9 | 6.1 | 7.3 | 1.4 | 1.4 | 2.0 | 1.6 | 4.7 | 6.0 | 4.1 |
| SOCIAL SCIENCES | 15.6 | 18.7 | 20.1 | - | .9 | - | - | - | - | .4 | - | 1.4 |
| OTHER | 4.1 | 4.1 | 3.6 | - | - | 15.1 | - | - | 7.4 | .4 | .8 | 28.8 |
| N.R. | 9.7 | 10.0 | - | - | 9.2 | 1.4 | - | 3.0 | 5.7 | .4 | 29.1 | 3.2 |
| TYPE OF APPOINTMENT | | | | | | | | | | | | |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| FULL TIME | 80.9 | 82.0 | 88.5 | 90.2 | 93.6 | 95.9 | 75.0 | 70.0 | 79.5 | 81.3 | 81.7 | 91.0 |
| PART TIME | 9.5 | 8.0 | 11.5 | 7.3 | 6.4 | 4.1 | 14.9 | 18.0 | 20.5 | 7.0 | 4.8 | - |
| N.R. | 9.7 | 10.0 | - | 2.4 | - | - | 10.1 | 12.0 | - | 11.7 | 13.5 | - |
| CONTRACTUALLY LIMITED | | | | | | | | | | | | |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| YES | 44.9 | 37.4 | 42.0 | 39.0 | 25.7 | 26.0 | 50.7 | 51.0 | 48.4 | 43.4 | 37.1 | 43.7 |
| NO | 52.7 | 60.7 | 56.6 | 57.3 | 69.7 | 74.0 | 45.9 | 48.0 | 46.7 | 55.1 | 61.8 | 56.3 |
| N.R. | 2.5 | 2.0 | 1.4 | 3.7 | 4.6 | - | 3.4 | 1.0 | 4.9 | 1.6 | 1.2 | - |

* Includes Natural Sciences, Engineering and Health Professions

TABLE 10

PRELIMINARY DATA
1984 NATIONAL GRADUATE SURVEY
EMPLOYMENT DATA ON DOCTORAL GRADUATES
EDUCATION, FINE ARTS, HUMANITIES AND SOCIAL SCIENCES

| SECTOR OF EMPLOYMENT | TYPE OF EMPLOYMENT | | | TOTAL |
|---|---|---|---|---|
| | PERMANENT | TEMPORARY | NOT REPORTED | |
| University | 139 | 86 | 3 | 228 |
| Other | 177 | 39 | 38 | 254 |
| Total | 316 | 125 | 41 | 482 |
| | % | % | % | % |
| University | 29 | 18 | - | 47 |
| Other | 38 | 8 | 8 | 53 |
| Total | 67 | 26 | 8 | 100.0 |

The SSHRC draws three major conclusions from the findings of these reports and its own analyses:

- Although openings within university faculties for new researchers in the human sciences will decline during the 1980s, there will be a continued demand for them throughout the economy in general.

- The lack of openings in university departments will result in a decline in research productivity, as projected by the Science Council in its report, University Research in Jeopardy.

- If no remedies are taken over the next decade, Canada will be forced once again to consider importing large numbers of trained and experienced researchers from abroad in the 1990s.

APPENDIX F

# PROPOSED RESEARCH CENTRES

## Introduction

The funding of research centres is the second major initiative of the Council's proposed Five-Year Plan. This program is designed to meet the need for innovative change in Canada's research efforts, a need which has been clearly manifested by participants and observers alike. It is expected to result in increased productivity, greater rationalization of resources, development of expertise on issues of national importance and multidisciplinary and multi-sectorial networking.

The purpose of this Appendix is to develop the outline of a centres program and to provide answers to some questions on its implementation.

## The Significance of Research Centres

A.W. Johnson has recently defined research centres as "centres which have earned or deserve an institutional as well as financial 'special status' within the system."[1] Generally, they are permanent institutes with a large degree of operational autonomy. Consequently, they have their own governing bodies, infrastructures, personnel and resources. Despite such operational autonomy, institutes can be the ideal vehicle for coordinating the work of teams of researchers with the activities of private, public and voluntary sectors as well as those of universities. These centres differ from ad hoc groupings of university researchers who agree to coordinate part of their work on certain projects but do not leave their home departments to do so and rarely obtain specific resources for these pursuits.

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[1] A.W. Johnson, Giving Greater Point and Purpose to the Federal Financing of Post-Secondary Education and Research in Canada: A Report Prepared for the Secretary of State of Canada. (Secretary of State, February 1985), p. 20.

In recent years, research institutes have often been credited with much of the world class research output and have therefore become the subject of specialized programs in a number of countries.[2] Much of the credit is due to one central factor: institutes provide an effective environment for the production and communication of research. The concentration of competence within specific fields leads to mutual reinforcement and consultation, spin-off of creative ideas and cooperation rather than duplication. Because of their multi-disciplinary nature and problem-oriented focus, they provide society with an infrastructure of expertise.

Expected benefits from the organizational dynamism of research institutes include:

- an optimal and rational use of human and material resources;
- increased productivity and more rapid production;
- long-term projects and research planning;
- teamwork;
- methodological development and theoretical innovation, especially in applied research;
- improved networking both inside and outside the university;
- positions for active researchers, both senior scholars and new PhDs;
- positions for visiting scholars;
- greater attention to communications, publishing and publicity for research results;
- consolidation of stimulating environments for research training.

## The Need for Research Centres

Recent studies and statements by government officials, academics and representatives of the private sector have indicated the need for a comprehensive policy on the establishment of research centres. Canada's Secretary of State, the Honourable Walter McLean, recently informed the Parliamentary Committee on Communications and Culture that, in light of the achievements of his department's Centres of Specialization program, he was considering other means through which to continue support for research centres.[3] In a report to the Association of Universities

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[2] See, for instance, Australia's Report of the Commonwealth Research Centres of Excellence Committee (Canberra, November 1985).

[3] Minutes of Proceedings and Evidence of the Standing Committee on Communications and Culture (House of Commons, April 18, 1985).

and Colleges of Canada, Thomas Symons and James Page concur that "it is time to give serious consideration to the Centres of Excellence idea."[4] In Partnership for Growth, the report of the Corporate-Higher Education Forum, it is recognized that research centres would be valuable in building collaboration between universities and the private sector.[5] The creation of research centres was the one unanimous recommendation of all the panelists in a conference on Social Science Research in Canada, sponsored by the Science Council in the autumn of 1984.

A significant number of research centres already are in existence. A 1981 directory of the Social Science Federation of Canada provides information on 134 research centres in the field of social science alone.[6] This example demonstrates the potential for research in this country but a closer analysis shows that many of these centres exist only in skeletal form. That research centres exist at all, in spite of the lack of a support program, is due to the professionalization of the research community in general and the determination of a number of its leaders in particular. Consequently, it can be observed that Canadians have already made a significant investment in the effort to achieve world-class research here. Few of these existing research centres, however, are as productive and successful as they could be. If the government of Canada were to make a marginal investment in this initiative now, there would be major returns.

The multiplier effect of this investment arises in part from the under-used capacity of research personnel, who are already in place, and in part from the inherent capacity of centres to generate additional resources once they have base funding.

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4 Thomas H.B. Symons and James E. Page, Some Questions of Balance: Human Resources, Higher Education and Canadian Studies (Association of Universities and Colleges of Canada, 1984), p. 129.

5 Judith Maxwell and Stephanie Currie, Partnership for Growth (Corporate-Higher Education Forum, 1984).

6 Robert Davidson, ed., Directory of Social Science Research Centres and Institutes at Canadian Universities (Social Science Federation of Canada, 1981).

The present need to stimulate the Canadian economy is another reason why research centres should be funded. A.W. Johnson states: "Higher education is one of the major engines of growth," and because of this fact, funds for research activities should increase at a rate greater than that of the GNP.[7]

In his report A.W. Johnson echoes the calls for the establishment of research centres. His recommendation is based on the observation that at the present time "there exists no vehicle with a mandate to concentrate resources on the creation of a few really world-class centres of excellence, in areas of importance to Canada's future."[8] The uncertainty researchers face due to this lack of a comprehensive and committed funding is inhibiting the production of research which is competitive in world markets and which is valuable in the alleviation of persistent social and economic problems, something which the government of Canada has identified as one of its main objectives in the document, A New Direction for Canada.[9]

To date three conditions have hampered the maximum utilization of Canada's research personnel.

First, the stagnation of employment in universities has closed down many potential career opportunities for research graduates, thus having a negative effect on the development of graduate programs.

Second, the relative decline in university budgets has impeded innovative interdisciplinary initiatives.

Third, increased enrolment at universities, combined with stagnant budgets and hiring have forced professors to accord more time to teaching and administration.

The need of the academic community for research centres was demonstrated in 1984 by the flood of 200 quality proposals which

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[7] A.W. Johnson, Giving Greater Point and Purpose to the Federal Financing of Post-Secondary Education and Research in Canada: A Report Prepared for the Secretary of State of Canada (Secretary of State, February 1985), p. 17.

[8] Ibid, p. vii.

[9] Department of Finance Canada, A New Direction for Canada: An Agenda for Economic Renewal (Ottawa, November 8, 1984).

were submitted in a period of six weeks to the Secretary of State's Centres of Specialization program. Because the proposals that came forward to the Secretary of State were based only on university priorities, we know that the total number of proposals could be multiplied by a factor of five.

There has been a similar high response rate to the Council's Strategic thematic program. Its success is a reflection of the maturity, both in numbers and experience, of Canada's research community and its need for resources and infrastructure. Le Fonds du Québec pour la formation des chercheurs et l'aide à la recherche has already recognized this need and established a major program of support.

Research Centres: Benefits for all Canadians

The Council's research centres initiative is designed to meet the needs for innovation and progress of the country's research community in particular and of Canadian society in general. Consequently, since everybody is affected by research advances, full support for the centres program would have positive results for all Canadians.

First of all, there are certain issues that are, or will become, critical factors in Canada's development for which an adequate body of knowledge does not yet exist in this country. The output of research centres will correct this imbalance.

Secondly, there are other areas in which Canada is particularly well-suited to make an outstanding contribution to the rest of the world. Research centres will allow expertise on these issues to be further developed and perfected.

The prestige resulting from the development of such international leadership would prompt increased support, both from inside and outside Canada, for the activities of research centres, thereby ensuring the future role and growth of Canada's important position on the international scene.

Oustanding Canadians in the natural and medical sciences have already made such vital contributions to the rest of the world. It is significant that much of their world-class work was done at research centres, usually associated with universities.

For instance, Banting and Best's discovery of insulin took place in a research laboratory associated with the University of Toronto. Nobel prize winner David Hubel did much of his work on the chemistry of vision at McGill University's Montreal Neurological Institute.10 The imperative to combine Canada's

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10 Proceedings of the Standing Committee on National Finance (Senate of Canada, April 25, 1984).

previous successes in the natural and medical sciences with its potential for success in the human sciences is greater now than it ever has been. As Symons and Page have said: "Our ability to cope with developments in science, technology and the material world will depend upon the knowledge, understanding and skills developed in the humanities and social sciences."[11]

There is a vast array of areas in the human sciences in which Canada's own challenges can lead it to develop expertise, such as:

- international division of labour;
- Native self-government;
- law of the sea/off-shore resources;
- Northern development and cultures;
- ethnic diversity;
- telecommunications;
- constitutionalism;
- protection of fundamental rights and freedoms;
- peace and security;
- resource-based economy;
- effective public enterprise;
- regionalism and federalism;
- language policy;
- educational methods and policies.

There is also a series of issues on which we must focus more attention in order to develop an adequate level of expertise:

- management studies;
- technological innovation;
- labour relations;
- resource development;
- productivity;
- Pacific Rim;
- heritage preservation;
- Third World;
- the work world;
- use of drugs;
- bio-medical ethics.

If only a few of these issues are exposed to in-depth study at research centres, then Canada's competitiveness on world markets will increase significantly. The fact that business will benefit not only from greater prestige, but also from a superbly trained body of potential employees will be a major incentive for the private sector to contribute to the financial security of the centres.

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[11] Symons and Page, p. 127.

## The Rationale for Federal Funding of Research Centres

"Only the Government of Canada, and for that matter the industries which span the whole nation, is, and are, in a position to finance Centres of Excellence at the expense of the same people who will benefit from them: the people of Canada," asserts A.W. Johnson. His reasoning is based on the following premises: a province should not be responsible for the total funding of research centres from its own revenue sources because the benefits of these institutes usually extend far beyond the province's borders. Similarly, if an individual university were to do so, then the institution's financial position would underpin benefits enjoyed across the whole nation.[12] The national importance of the proper development of knowledge through research and scholarship is further emphasized in the report of the Commission on the Future Development of Ontario Universities.

The rationale for having research centres funded by the federal government is also found in the pursuit of efficiency in public sector spending. Because these research centres would often be of an inter-provincial nature, the least costly manner of administering funds and maintaining accountability is through a body which cuts across provincial boundaries. Also, the federal government is in a better position to mobilize support from the national industries.

Strong federal support is vital if Canada is to keep pace with the development of the countries with which it is in competition on the world market. David Johnston, of the Association of Universities and Colleges of Canada, observes that "there is no industrialized country today that has a significant university system that does not have a significant, substantial federal role in that system." For this reason, he supports the observations of A.W. Johnson and proposes "a significant federal government presence in the funding of (research centres)."[13]

## Research Centres and the SSHRC: A Natural Step Forward

The Council is uniquely placed to respond to the national and academic needs for a well-defined and fully committed policy on research centres. Its position in relation to the federal government will allow an efficient consultation on national needs to be examined in the institutes. Similarly, its historic ties with the academic community will allow the identification of

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12 A.W. Johnson, op. cit.

13 Proceedings of the Standing Senate Committee on National Finance (Senate of Canada, April 25, 1985).

researchers' needs. The fact that the SSHRC's mandate does not limit its granting powers to university institutions puts the Council in an ideal position to develop multi-sectorial involvement in the funding and running of research centres.

The links which already exist between the research centres initiative and other SSHRC programs demonstrate the potential for a fully integrated approach.

In particular, the Strategic Grants program, a successful initiative of the first Five-Year Plan, has fostered the development of research centres devoted to the study of Canada's aging population.

This example indicates the manner in which institutes can focus on critical issues of national importance before they reach crisis point. To date five centres have received Council support and are proving to be effective in the stimulation of interest in an emerging field. They have also facilitated the consolidation and integration of individual research efforts and the production of theoretical or applied studies as well as policy-relevant work for both the provincial or federal levels of government. The centres are becoming the focus for research on aging regionally, nationally and internationally. This increased visibility is yielding concrete results. For example, the Centre on Aging at the University of Manitoba and the Program in Gerontology at the University of Toronto have been invited to become members of the International Exchange Centre in Gerontology at the University of South Florida.

Council's investment is particularly cost-effective in the case of the Centre on Aging at the University of Manitoba. With the aid of a grant of $100,000 per year and a professional staff of three, over two years the Centre has produced 24 publications, has obtained funding for 14 specific projects and raised almost a million dollars of outside support. It is currently involved in three major policy-relevant projects: a study on living arrangements and informal care, an examination of the decision-making processes in the use of formal services, both sponsored by Health and Welfare Canada, and a provincially funded study on supportive services and housing for elderly Manitobans. Moreover, the Centre's reputation in its main area of specialization research -- research in health and health care -- is confirmed through numerous invitations from national and international organizations.

In the area of human resource development, the Council already provides postdoctoral fellowships and is proposing to add a Canada Research Fellowship program. Both types of fellowships would support, and in turn be supported by, the establishment of research centres offering a stimulating intellectual environment.

Research centres would also assist the Council's existing program of Support to Specialized Collections. Because of diminishing resources, university libraries experience difficulty in keeping pace with a rapidly growing field of information. Research centres would have their own facilities, which, when combined with the existing strengths of university libraries, would provide a much greater wealth of material than presently available.

Program Outline: General Orientation

The first step in the establishment of support for research centres will be the creation of a Program Committee, composed of representatives from the academic community and the public, private and voluntary sectors. It will be responsible, under the Council's guidance, for elaborating a broad conception of the country's requirements for such centres and for delineating the criteria and operational framework of the program. Given the importance and complexity of the initiative, it is judicious to allow for up to one year to put the program in place.

The Program Committee will also be charged with making recommendations on the relationship of the research centres' funding to the other programs of the Council. Specifically, the question will have to be studied as to whether researchers in the centres should be eligible for grants from other programs of the Council or whether there should be special allocations within the research centres' program. Similarly, proposals will have to be made concerning the access of institutes of the SSHRC's programs for the funding of special library collections, research resources and small conferences. Finally, the Program Committee should examine and make recommendations on "sunset" rules for the funding of specific institutes, as well as on procedures for evaluation and processes for the phasing out of funding.

The following section attempts to provide a set of preliminary guidelines for consideration by the Program Committee.

A first and continuing preoccupation of the Program Committee will be the development of lines of communication and consultation with the relevant authorities in the provinces, with universities and the academic community, thus ensuring the harmonization of policy with provincial priorities.

For instance, Quebec and Ontario have already adopted specific projects of research centre support and the Council's program must complement, not duplicate them. Indeed, the Research Centres program may also be seen as a significant complement to Established Program Financing in specialized areas of financial support. The initiation of an early dialogue with provinces and universities would create a sense of cooperation at the outset.

It further may be assumed that the program will require a continuing basis of public consultation on national priorities. Such mechanisms should be developed from the outset. Given recent advances in high technology and communications, the location of centres need not be restricted to major cities. In fact, an argument can be made in the opposite direction giving due consideration to adequate regional distribution. Moreover, a concern for "linkage" should be built into the research centres' plans and to the funding program, ensuring regular contact with groups and organizations in the public, private and voluntary sectors within and outside Canada.

Funding programs, by their very nature, often tend to lack flexibility. In establishing this program, the Council will endeavour to recognize the need for a maximum, feasible degree of variability. It is evident that not all institutes can be cut from the same model. For instance, institutes may vary from relatively large, unspecialized centres for research production (the Stanford model) to the smaller, more specialized institute.

One of the most crucial problems for the organization of research in Canada at the present time is the lack of stable funding. This hampers new initiatives, innovation and long-term planning. It is, therefore, important that the Council's program for research centres take account of these factors and envisage periods of commitment for five years with possibilities for renewal.

Given base funding through SSHRC grants, centres should be able to attract additional support from the public, private and voluntary sectors. Their ability to raise matching funds and/or derive revenue from contract work could be one of the criteria of performance evaluation. The University of Manitoba's Centre on Aging is a positive example for the viability of this approach.

With regard to subject matter, the program will avoid both narrowness and extreme openness in addressing major social, cultural, political and economic issues. Special recognition should be given to situations in which Canadian problems can be conceived in a comparative framework to ensure a broader relevance of the findings.

At the operational level the program will seek to develop internal organizational capacity and external research services of the proposed research centres. Basic infrastructure support will be aimed, therefore, at providing full-time release for a director and necessary staff.

In addition, SSHRC support should enable the centres to provide external services for researchers working in the particular field of interest. This could include equipment, telecommunications, library and documentation services and publishing.

## The Activities of Research Centres: Some Suggestions

As a general rule, centres are likely to be affiliated with a university. At the same time, they should allow for easy access to and from the community at large; they must not develop the reputation of an "insiders only" institution. The centres could be located in their own building or their own sets of offices in larger buildings. The personnel may include a director or directors; permanent researchers; visiting researchers with time off from their "home" institutions; research assistants; SSHRC Canada Research Fellows; SSHRC postdoctoral fellows; graduate students; library personnel; and support staff.

With regard to specialization, the director(s) of the centres, in conjunction with the researchers, would plan specific areas of research concentration on a two- to three-year cycle. The centres' activities would also include individual studies initiated by researchers. Both types of research concentration would be reflected in the orientation of the documentation centre and the bibliographic services.

The communications facilities to be provided at the centres would allow extensive networking between the institutes' activities and related work being done in Canada and beyond its borders. Where possible, centres would produce regular newsletters. Assistance in covering travel costs would allow researchers to stay abreast of developments by attending relevant conferences and seminars. Periodically, the centres would sponsor their own meetings.

The centres' professional library services would give easy access to data that is needed for the researchers to effectively carry out their work.

The participation of research assistants in these institutes would increase the output of established researchers in addition to receiving training in a specific field of inquiry. At the recent annual meeting of the Social Science Federation, the workshop on research instruction concluded that the most effective stimulants for graduate students included a milieu of active research, a situation for emulation and apprenticeship, early and frequent project writing, and concentration on substantive topics, not just technique.

With respect to SSHRC-sponsored Canada Research fellows and postdoctoral fellows, it is expected that some of them will find an "ideal" home at such centres, developing and applying their knowledge and skills to the study of national issues.

What has been outlined thus far in this section is the operational, more formal aspect of research centres. As a result of their services and facilities, and the close relationships fostered among the centres' members, unique working environments will be created. The researchers will see each other on a daily basis and, being freed from many administrative tasks, will have the time to discuss their work extensively with their colleagues, thus benefiting from the kind of intellectual stimulation that can emanate only from situations in which stable and trusting relationships are established. Because the support staff will deal consistently with the same small group of people and with the same general issues, expertise and devotion to the centres' pursuits will develop.

In short, the activities that will take place at the research centres which the Council proposes to fund will provide a unique, highly productive, and necessary addition to Canada's research community.